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NUMBER 1

Some Observations on Thyroid Function in Pregnancy*

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PART I

Thyroid Function in Normal Pregnancy

HYPERTROPHY of the thyroid gland during pregnancy, as indicated by visual and palpatory enlargement of the gland, is of common occurrence in the human.^{1,2} Whether or not this represents hyperactivity is still a moot question. The basal metabolic rate during pregnancy has been studied.³⁻⁷ Increases of 10% to 35% have been recorded, particularly late in pregnancy. Heinemann,⁸ corroborated by Russell and others,⁹⁻¹⁴ noted a rise of protein bound iodine during the early weeks of pregnancy. These two observations appear to be in conflict, since both laboratory tests presumably reflect the degree of thyroid function. Pochin¹⁵ noted in five human subjects that the radioiodine thyroid uptake was lower six to ten weeks after delivery than during pregnancy. Ferraris¹⁶ reported an increase in I¹³¹ thyroid uptakes in the first trimester of pregnancy, and it

persisted throughout pregnancy. Noble¹⁷ recorded an increase of 15% of the radioiodine uptakes during the last ten weeks of pregnancy, with a normal range at 16 weeks of pregnancy. Engstrom and others¹⁸⁻²⁰ have noticed increase in the Protein Bound Iodine (PBI) following administration of estrogens to rats and non-pregnant humans. The radioiodine uptake in the rat is increased by the administration of estrogens.²¹⁻²³ The PBI rise in early pregnancy may be due to the rapid increase in estrogen levels soon after the initiation of pregnancy. The observations by Ferraris and Noble are in conflict as to an early increase in thyroid uptake of I¹³¹ during pregnancy—one agreeing, the other not, with the animal experiments. The following study was done in an attempt to clarify the changes in thyroid function during pregnancy.

Material

This study included basal metabolic rates, PBI determinations, and radioiodine uptakes during pregnancy and the immediate puerperium. The measurements were distributed among the various weeks of pregnancy. The patients were unselected and presumed to be

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euthyroid prior to study, in that there were no clinical symptoms or signs of thyroid dysfunction.

Each patient was admitted to the hospital overnight. After 14 hours of bed rest without food the basal metabolic rate was determined, in duplicate, on each patient. Blood was drawn for protein bound iodine determination. They then received a tracer dose of radioiodine by mouth, either as a capsule or in solution.* The amount of tracer I^{131} taken up by the thyroid gland at six hours and 24 hours after ingestion was determined by external counting and results expressed as percent of the administered dose. All determinations were done by the same individual. The Sanborn apparatus was used for the basal metabolic rate; the Zak Chloric Acid Method modified by Benotti was the method of PBI determination, each test corroborated by known iodine standards; the I^{131} uptakes were done using a gamma sensitive sodium iodide crystal and scintillation counter.†

Results

The basal metabolic rate has been standardized with normal values ranging from -10% to $+10\%$ in non-pregnant patients. In our radioisotope laboratory the normal range for the six hour thyroid uptake is 10% to 20% for the 12 hour thyroid uptake 20% to 30% . The normal range of PBI in euthyroid patients is $4-8 \mu\text{gm}\%$ with a mean of $6.0 \mu\text{gm}\%$.

Table I demonstrates the alteration of BMR for each four-week interval of pregnancy beginning with the fifth week. Five of these patients aborted and were excluded; five had premature labor; the

Table I. Basal Metabolic Rate

Duration of Pregnancy in weeks	Range $\%$	Mean $\%$	No. of Recordings
9-12	-12 to +10	+1.0	7
13-16	-12 to +9	-4.4	10
17-20	-16 to +16	+1.9	10
21-24	-9 to +6	-2.0	10
25-28	-18 to +17	+0	15
29-32	-11 to +8	-2.4	9
33-36	-1 to +19	+6.4	10
37-40	-3 to +18	+3.3	6
<i>Postpartum</i> 1-3 days	-12 to +20	-0.4	19

remainder proceeded to term pregnancies. The rate appears to be fairly level up to 32 weeks of pregnancy. During the last two months of pregnancy a 10% rise occurs followed by an immediate postpartum drop.

Table II. O_2 Consumption per sq. Meter of Body Surface

<i>Change in O_2 Consumption in Individual Patients Trimester to Trimester of Pregnancy and Postpartum</i>	
First to second trimester (16 patients)	+1.2% 10 inc., -6 dec.
First to third trimester, (17 patients)	+10.1% 16 inc., -1 dec.
Second to third trimester, (22 patients)	+9.4% 21 inc., -1 dec.
Third trimester to postpartum, (12 patients)	-3.6% 3 inc., -9 dec.

Table II examines more graphically the results where changes within each patient were examined. It would appear that there may be an increase of oxygen consumption per unit during pregnancy up to 10% .

Table III. Protein Bound Iodine in Pregnancy

Duration of Pregnancy in Weeks	Range $\mu\text{gm}\%$	Mean $\mu\text{gm}\%$	No. of Recordings
13-16	9.6-11.0	10.3	2
17-20	8.2-10.1	8.9	4
21-24	7.5-11.8	9.9	5
25-28	6.7-10.5	8.8	10
29-32	6.4-12.3	9.3	5
33-36	7.2-11.6	9.3	9
37-40	8.3-11.7	9.7	6
<i>Postpartum</i> 1-3 days	6.0-11.4	9.2	21

*Radiocaps—Abbott or Indacaps, Diagnostic—Squibb.

†Model 2000 Radiac—NRD Instrument Co.

Table III shows the results of the PBI tests. There appears to be no marked change in the last trimester. Studies done in a later and larger group of patients verifies the consistency of the PBI determination from the first to third trimester of pregnancy.

When the I^{131} uptakes are studied there appears to be an increase in uptake during the last month of six hour and 24 hour uptakes. Both of these elevations are carried over into the early puerperium, in Tables IV and V.

Table IV. 6 Hour I^{131} Uptake

Duration of Pregnancy in Weeks	Range % Uptake	Mean % Uptake	No. of Recordings
9-12.....	8-15	10.9	8
13-16...	4-21	10.7	9
17-20...	5-20	12.0	8
21-24...	5-18	9.3	11
25-28...	5-22	10.8	13
29-32...	4-23	13.8	8
33-36.....	5-17	10.6	8
37-40.....	5-25	14.0	5
Postpartum			
1-3 days.....	4-33	13.7	17

Table V. 24 Hour I^{131} Uptake

Duration of Pregnancy in Weeks	Range % Uptake	Mean % Uptake	No. of Recordings
9-12.....	10-24	20.1	7
13-16...	13-29	19.1	9
17-20...	12-26	21.6	8
21-24...	9-28	18.1	12
25-28...	13-47	21.7	14
29-32...	10-35	21.4	9
33-36...	8-34	21.3	9
37-40.....	12-45	26.8	6
Postpartum			
1-3 days.....	10-46	27.1	21

Discussion

The basal metabolic rate, the six hour and 24 hour radioiodine uptakes parallel from the latter part of the first trimester to term in that there is a 10% increase in each during the last trimester. The basal metabolic rate drops in the early puerperium. The uptakes of I^{131} and the PBI elevations are maintained in the early puerperium.

Since the fetal thyroid accepts some of

the radioiodine ingested by the mother, one would expect a decrease of I^{131} thyroid uptake as term is approached, as the fetal volume becomes larger. Since the fetal thyroid weighs about 10% of the maternal thyroid, a similar amount of I^{131} should be lost for maternal use and a drop should be expected if there were no increase in thyroid function. This does not occur. It must, therefore, be assumed that this increase of I^{131} uptakes, even though slight, is a real one.

Conclusion

These data suggest that thyroid function increases about 10% from the first trimester to the third trimester of pregnancy.

PART II

Thyroid Function and Abortion

The role of malfunction of the thyroid in its relation to abortion has been discussed recently by Man¹² and Russell⁹ among others. All have come to the conclusion that some, but not all, patients who abort have a lower PBI level than would be expected for normal subjects who proceed to term. Because of, or in spite of, this work thyroid substances are being used empirically in the treatment of threatened or habitual abortions. The second part of this investigation considers the relationship between abortion and the PBI.

Methods

Some 62 patients presenting themselves to the University Hospital accident room because of inevitable or incomplete abortion were studied. They were, in as far as possible, consecutive. Attempts were made to determine whether or not deliberate interruption was carried out prior to their arrival at

the accident room. Reluctance to admit this circumstance would hamper the desire on our part to include only spontaneous abortions. There probably are some patients in this group who did not have spontaneous abortions, thereby not entirely fulfilling the original plan.

Blood was drawn for PBI determination. In an equal group of patients seen in our antenatal clinic who eventually proceeded to term, blood was drawn for PBI determinations. There was an attempt made to obtain a control group in which the blood was drawn for PBI determinations at the same stage of pregnancy that the study group aborted.

Since all patients were ambulatory, the basal metabolic rate and radioiodine uptakes were not done.

Results

Of the 62 patients who aborted, 12 were 8 weeks or less pregnant; 22 were 9 to 12 weeks; 18 were 13 to 16 weeks; 10 were 17 to 20 weeks pregnant. In the control group 8 were less than 9 weeks pregnant; 24 were 9 to 12 weeks; 20 were 13 to 16 weeks; and 10 were more than 16 weeks pregnant.

Table VI.

	Abortions	Term Pregnancies
<i>Up to 8 Weeks</i>		
Number	12	8
Range PBI mg. %	4.6-9.5	5.7-9.6
Mean PBI mg. %	6.9	7.7
<i>9-12 Weeks</i>		
Number	22	24
Range PBI mg. %	3.6-8.0	5.0-12.1
Mean PBI mg. %	6.1	8.3
<i>13-16 Weeks</i>		
Number	18	20
Range PBI mg. %	3.4-12.3	6.2-11.2
Mean PBI mg. %	7.5	8.1
<i>17 Weeks and over</i>		
Number	10	10
Range PBI mg. %	4.9-11.0	6.8-10.5
Mean PBI mg. %	7.9	8.3

The results are tabulated in Table VI. It seems probable that at least some patients aborting may have a lower PBI.

Whether or not the elevation of the PBI level with thyroid substance would have prevented the spontaneous abortion in this type of patient is a moot question. The inference that it would has been assumed by those who use thyroid substances for this purpose empirically.

Figure 1 more graphically depicts that in patients aborting there is a shift to the left of the PBI levels, in relation to the PBI levels of those patients proceeding to term.

Discussion

The PBI levels do not necessarily reflect thyroid activity. Engstrom *et al*²⁰ have demonstrated elevation of the PBI when estrogens are administered. The increase in PBI levels early in pregnancy may be initiated by the rise in blood estrogen levels. Biochemically, Coryell *et al*²⁴ found an increase in interalpha globulins or the thyroid-binding globulins in the protein fractions of blood drawn during pregnancy. Dowling²⁵ *et al* noted that these globulins have the capacity to bind more thyroxine during pregnancy than in the non-pregnant state. Therefore, fluctuating PBI levels do not necessarily reflect changing thyroid function during pregnancy, but may merely mirror the change in the thyroxine binding power of the interalpha globulins. Thus, a low PBI would not necessarily mean hypofunction of the thyroid gland but that the interalpha globulins may not be capable of binding more thyroxine (possibly because of insufficient estrogen production).

The lower levels of PBI in some patients who abort may represent the end result of several mechanisms:

1. Hypofunction of the thyroid gland.
2. Some deficiency in the interalpha globulins, either in quantity or in binding ability.

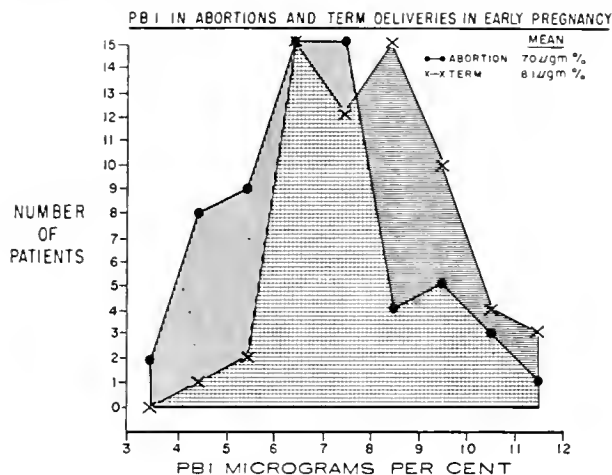


Fig. 1

3. Insufficient production of estrogen.

The causes of abortion are varied and difficult to ascertain. Germinal and endometrial deficiencies, congenital anomalies and some hormonal aberrations cannot be determined while the pregnancy is a "threatened abortion." Figure 1 indicates that a low PBI may be incriminated, whatever the cause of its low value. Conminos²⁶ has shown in patients who habitually abort, that treatment with thyroid hormone increases the chance of a successful pregnancy, when the PBI is low; treatment with thyroid hormone of the same type of patient with a normal PBI does not achieve success in any greater incidence than does a placebo. The use of thyroid hormone in patients with low PBI's in some instances appears to be of value in that the pregnancy outcome is successful. Yet three patients in this study group (Fig. 1) have a level below 6.0 mg.% in early pregnancy and were successful in that term pregnancy ensued.

It seems reasonable to suggest that empiric thyroid hormone in the prevention of abortion is invalid. When the PBI is low (6.0 mg.% or less), the use

of thyroid substances is indicated and may be of value.

The empiric use of estrogens has frequently been reported as efficacious in the prevention and treatment of abortion. If the PBI is low because of insufficient estrogen, then thyroid substances should not be useful; rather estrogen should be used. Until a satisfactory test for the serum estrogen levels has been found, this differential diagnosis will continue to be elusive, and the use of estrogens will fall in the same pattern as has thyroid hormone in the past, on an empiric basis, not on a factual one.

Summary

PBI levels are low in some patients who spontaneously abort. This is also true in a lower percentage of some patients who proceed to term.

Three etiological mechanisms are presented as possible theoretical causes. Their evaluation needs further study.

Thyroid substances given to patients with low PBI levels during early pregnancy, especially if there is a history of previous abortions, may be of value. Thyroid substances in the face of a normal PBI is of doubtful value.

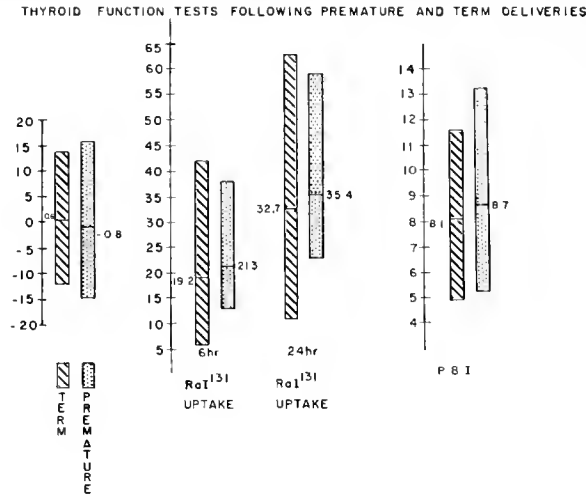


Fig. 2

PART III

Thyroid Function and Prematurity

It has been determined by Man¹² and Russell¹³ and corroborated in Part II of this paper that lower PBI levels occur in some patients who abort. If these can be corrected before pregnancy or in early pregnancy, some will have a satisfactory fetal result (Delfs).²⁷ It would be interesting to know if the same factor may play a role in premature labor.

Material

The thyroid function should be tested prior to or early in pregnancy under ideal conditions. This method is tedious, since prematurity is not predictable. For this reason the patients were studied immediately after delivery. Thirty-one patients with premature infants and 31 patients with term infants were studied. The prematures were consecutive patients and those with term infants, delivering immediately following the patient with the premature infant, were used as term controls. The basal metabolic rate, radioiodine uptake of the thyroid gland, and the PBI were studied. The normal

ranges have been recorded previously in Part I of this paper.*

Results

Table VII and Figure 2 describe the results. The ranges and means of all the tests indicate that there is no difference in the thyroid function of women just after delivering prematures or term infants.

Table VII.

	Premature	Term
BMR		
Range %	-15 to +16	-12 to +14
Mean %	+0.6	-0.8
Number of Patients	20	19
6h Ra I Uptake		
Range %	13-18	6-42
Mean %	21.3	19.2
Number of Patients	24	22
24h Ra I Uptake		
Range %	23-59	11-63
Mean %	35.4	32.7
Number of Patients	28	24
PBI		
Range %	5.25-13.25	4.90-11.6
Mean %	8.7	8.1
Number of Patients	30	31

*In Part I Radiac Model 2000 was used as the scintillator with a tracer dose of 2-5 mc of I¹³¹. In later studies the model 131, Mediac Nuclear Chicago, was used with tracer doses of 5-9 mc of I¹³¹. The average and range of the six hour and 24 hour recordings of I¹³¹ uptake of the thyroid are higher using a larger dose and a more sensitive instrument. However, the relationship of changes within each pregnancy is similar.

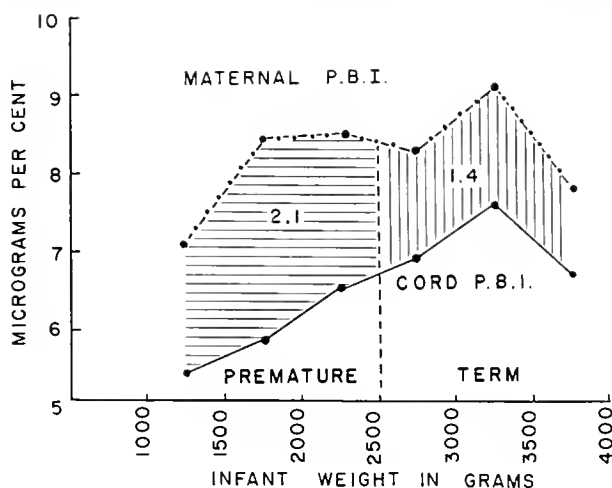


Fig. 3

Discussion

With the three parameters of thyroid function—BMR, PBI, and ^{131}I uptake, there appears to be no difference in the thyroid function following delivery of premature or term infants. This does not conclusively show that malfunction of the thyroid plays no role, since the pre-pregnant function of the thyroid is not known.

Summary

Using the basal metabolic rate, ^{131}I uptake of the thyroid, and the PBI immediately following delivery, there seems to be no statistical difference between those patients delivering premature or term infants.

PART IV

The Relations Between Maternal and Newborn PBI Determinations

During the studies reported in Parts I and III, blood from the cord of the newborn infant was drawn for PBI determinations. Correlations of the maternal and infant PBI levels were made in the various weight groups of the infants.

Results

It was possible to correlate some 101 recordings of both maternal and infant PBI's. The correlations were made in infant groups of 500 grams weight level, beginning with 1000-1499 grams. Only four recordings were made at the lowest level and the most (33) weighed between 2500 and 2999 grams (Table VIII and Fig. 3).

Table VIII. PBI in Maternal and Cord Blood at Delivery by Infant Weight

	Maternal	Cord	Diff. in Mean
1000-1499 Gm.			
Range $\mu\text{gm. } C_t$	4.7-10.4	4.4-7.8	
Mean $\mu\text{gm. } C_t$	7.1	5.5	1.6
Number	4	4	
1500-1999 Gm.			
Range $\mu\text{gm. } C_t$	5.4-10.8	4.3-9.3	
Mean $\mu\text{gm. } C_t$	8.4	5.9	2.5
Number	9	9	
2000-2499 Gm.			
Range $\mu\text{gm. } C_t$	5.3-13.3	4.4-10.6	
Mean $\mu\text{gm. } C_t$	8.5	6.5	2.0
Number	20	20	
2500-2999 Gm.			
Range $\mu\text{gm. } C_t$	4.9-13.2	3.3-11.5	
Mean $\mu\text{gm. } C_t$	8.4	6.9	1.5
Number	33	33	
3000-3499 Gm.			
Range $\mu\text{gm. } C_t$	5.9-12.3	4.4-11.5	
Mean $\mu\text{gm. } C_t$	9.1	7.6	1.5
Number	23	23	
3500 Gm. & over			
Range $\mu\text{gm. } C_t$	4.2-10.3	1.9-8.0	
Mean $\mu\text{gm. } C_t$	7.8	6.7	1.1
Number	12	12	

The mean levels of PBI were lower in the infants than in the mothers in all groups, although an occasional infant showed a slightly higher PBI than the maternal. These were usually in the high level PBIs. Except for the 1000-1499 gram group, where there were only four recordings, the difference becomes gradually less with each increment of weight. The more mature (by weight) the infant, the less the difference until at the over 3500 gram weight level the difference was only 1 mg.%. The mean difference for all premature was 2.1 mg.% and for all mature 1.4%.

Discussion

Chapman *et al*²⁸ have shown activity of the fetal thyroid as early as the 12th and 14th week of pregnancy by detecting I^{131} uptake of the fetal thyroid after therapeutic abortion, the mother having received a large tracer dose of I^{131} prior to the operative procedure. The above data suggest that thyroid function beginning in the first trimester increases as the infant becomes more mature.

Greenbach and Weiner²⁹ have demonstrated that I^{131} labelled l-thyroxin injected into the maternal organism prior to delivery can be recovered in appreciable amounts, if the injection occurred at least 18 or more hours prior to delivery. At 169 hr. an equilibrium is still not reached. They state that "the human placenta is capable of transmitting significant amounts of thyroid hormone but the rate of transfer across the barrier is slow." The above data suggest that the equilibrium is not reached after months of intrauterine life. In light of our data Greenbach's experiments may be explained as follows: the I^{131} l-thyroxin injected is metabolized by the mother; the I^{131} crosses the placenta barrier; the I^{131} is used by the fetal thyroid for the

synthesis of thyroxin; and is finally bound by the alpha globulins of the fetal blood.

Summary

Newborn PBI levels are usually lower than maternal PBI levels at the time of delivery. This difference decreases linearly with the weight of the infant.

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Anterior Approach to the Cervical Vertebral Bodies*

WILLIAM H. MOSBERG, JR., M.D.** and ELI M. LIPPMAN, M.D. ***

IT is not often that one encounters a lesion involving the anterior portion of one of the cervical vertebrae. The technical difficulties encountered in managing such lesions may embrace several of the surgical subspecialties as well as demanding collaboration of internist, radiologist, and pathologist. As a result, the individual clinician cannot escape some feeling of insecurity when confronted with such a case. Recently we have been faced with the problem of managing two patients—one with a destructive lesion involving the anterior portion of the body of the second cervical vertebra and the other with a destructive lesion of the anterior part of the fifth cervical vertebra. It is hoped that a record of these experiences will be of value to others in managing lesions in these areas.

Report of Cases

Case 1. I. K. C., #153905, 21-year-old white male, was transferred to the United States Public Health Service Hospital, Baltimore, Maryland, on October 15, 1955 from the United States Public Health Service Hospital, Detroit, Michigan. There was a past history of rheumatic fever at the ages of 11 and 12 years. In 1952, he was involved in an

automobile accident, sustaining a laceration of his forehead, an injury to his right knee, and three broken ribs. A heavy steel object fell on his right ankle in 1953 causing a fracture of that part. There was no significant history of injury to the skull or neck. Past history and family history were otherwise non-contributory.

Except for intermittent bouts of posterior neck pain during the six years preceding his present admission he had enjoyed good health. These episodes of discomfort would occur about once a month and would subside within a few days after treatment by an osteopath or a chiropractor. His symptoms were not bothersome enough to prevent him from completing his schooling and being employed as a grocery clerk, steel worker, and subsequently as a merchant seaman. In August, 1955, he had an episode of neck pain which was quite severe and was not relieved by chiropractic treatment. In September, 1955, when he was admitted to the hospital in Detroit, there was marked limitation of motion of his neck. Bed rest and cervical halter traction yielded marked relief from symptoms, but he continued to have neck pain on any movement of the head. He was transferred to the United States Public Health Service Hospital, Baltimore, Maryland.

Upon re-examination on October 15, 1955, pulse was 100 per minute and blood pressure 110/80. The nasal septum was deviated to the left. The nasal mucous membrane was congested and there was some mucoid discharge from the nose and nasopharynx. A grade I blowing systolic murmur was heard at the apex of the heart. He held his neck rigidly and the slightest movement in any direction caused pain. There was some spasm of the paravertebral cervical muscles. The patellar and supra-patellar jerks were briskly and symmetrically present. Neurological examination disclosed no abnormality.

Urine analysis, serological tests for syphilis, hemogram, sedimentation rate, blood uric acid, blood sugar, blood inorganic phosphorous,

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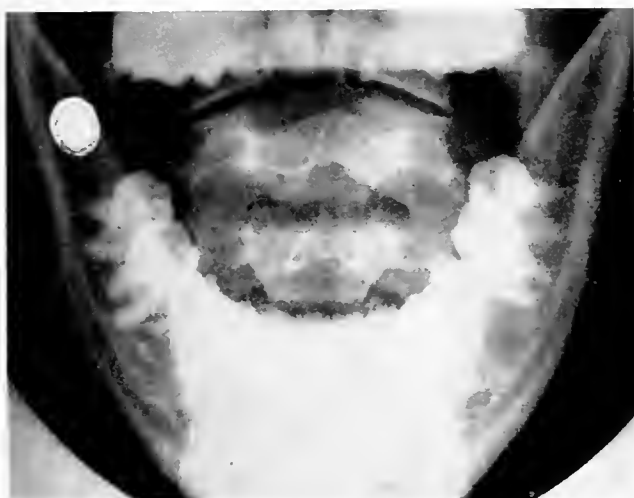


Fig. 1. Open mouth view of upper cervical spine, September 8, 1955. Involvement of the odontoid process has rendered its outline barely visible.



Fig. 2. Open mouth view of upper cervical spine, September 29, 1955. Note the further involvement of the odontoid process as compared with Fig. 1.

serum proteins, and routine agglutinations were within the limits of normal. Urine analysis was negative for Bence-Jones proteins. Alkaline phosphatase test was 1.85 units. Cultures of blood and urine yielded no growth.

Roentgenograms of the cervical spine taken on September 8, 1955 (Fig. 1) showed a destructive lesion in the anterior portion of the body of the second cervical vertebra, extending upward into the base of the odontoid process. The process was noted to be purely destructive, with no evidence of secondary periosteal reaction or soft-tissue changes anterior to the lesion. A follow-up film taken on September 29, 1955 (Fig. 2) showed marked progression of the pathologic process. Films taken on

October 17, 1955 (Fig. 3) showed further progression in the bone destruction of the body of the second cervical vertebra; rather marked subluxation posteriorly of the atlas on the axis; and a pathologic fracture through the base of the odontoid process.

Crutchfield tongs were inserted and the patient placed in traction on October 17, 1955. On October 27, a small occipital node on the left side was excised. The microscopic pathologic diagnosis was reactive hyperplasia of lymph node. A size #17 spinal needle was passed through the mouth and inserted into the area of the lesion in the second cervical vertebra on October 31 (Fig. 4). It appeared that a thin shell of bone prevented the needle

from actually entering the lesion. The pathologist was unable to arrive at a diagnosis after microscopic examination of the material aspirated. He identified erythrocytes, eosinophiles, neutrophils, and plasma cells arranged without order in a mesh of fibrin strands. No neoplastic cells were found.

On November 4, following an episode of chills and fever of 102° F., he had a grand mal seizure which apparently started while he was asleep. Postictal examination disclosed bilateral extensor plantar responses but there were no other abnormal neurological findings. A spinal puncture, done the following day, showed clear and colorless fluid under an initial pressure of 180 mm. with normal dynamics. Laboratory analysis of the cerebrospinal fluid showed no cells, negative Pandy, total protein 34 mgm. per cent, a negative serological test for syphilis, and no growth on routine bacteriologic cultures. Cystoscopy and retrograde pyelography performed on November 7 showed no abnormality.

Under general anesthesia on November 14, 1955, tracheostomy was accomplished. The patient was placed in a slight Trendelenburg position; a Davis mouth gag inserted; and a gauze pack placed in the lower pharynx behind the glottis. Incision of the soft palate did not prove necessary to provide adequate exposure, although this possibility had been considered preoperatively. A midline longitudinal incision approximately four centi-



Fig. 3. Lateral view of cervical spine, October 17, 1955. Note the bone destruction in the anterior part of the body of the second cervical vertebra, and the subluxation posteriorly of the atlas on the axis.



Fig. 4. Attempted transpharyngeal needle aspiration biopsy. A barely visible thin rim of bone on the anterior aspect of the body of C-2 prevents the tip of the needle from entering the area of the lesion.

Fig. 5. Portable film taken at time of the transpharyngeal operation to demonstrate that the tip of the forceps is in the center of the lesion. Note the radio-opaque material in the gouze pack occluding the pharynx below the operative site. (Retouched.)



meters in length was made in the posterior pharyngeal wall centered at the body of the second cervical vertebra. Only minimal bleeding was encountered and the soft tissues were dissected laterally with a small periosteal elevator. The destructive process involving the odontoid process was readily identifiable but the ligaments and bone cortex on the anterior aspect of the body of the second cervical vertebra were intact and would not admit biopsy forceps. A cruciate incision was made in the anterior longitudinal ligament and then, employing a Hudson brace, cerebellar extension, and MacKenzie perforator, an opening was made through a thin rim of bone remaining on the anterior upper part of the body of the second cervical vertebra, following which a regular, well defined cavity, approximately seven mm. in diameter with a smooth, glistening lining, and filled with a fibrous sort of tissue, was identified. The contents of this cavity were removed with a curette and with a pituitary punch (Fig. 5). A portion of the smooth glistening lining and adjacent bone of the second cervical vertebral body was removed with a Kerrison punch. No bleeding was encountered. The edges of the incision in the posterior pharyngeal wall were approximated but not sutured. The nasopharynx above the operative field and the oropharynx below the operative area were thoroughly cleaned with suction and the oropharyngeal pack removed. The patient was placed on Penicillin 300,000 units and Streptomycin 0.5 gm. twice

a day for five days after operation. The wound healed rapidly and uneventfully and he appeared to have suffered no ill effects from the operative procedure.

Microscopic examination of the tissues removed at this operative procedure showed striated muscle, fibrous tissue, squamous epithelium, and active granulation tissue with lymphocytic infiltration in a portion of stroma underlying a segment of squamous epithelium. In addition to these constituents, the specimen contained portions of bone with attached matrix in which osteoblasts and osteoclasts were found. The stromal tissue contained foci of golden pigment-laden cells and small foci of accumulated lymphocytes. The vascular channels showed some prominence of endothelium suggesting tissue activity. The pathologists were unable to arrive at a definite diagnosis from microscopic examination of these tissues, and they suggested that the conditions to be considered were: monostotic fibrous dysplasia, bone cyst, and callus formation.

On December 15, 1955, the patient was transferred to the Orthopedic Surgery Service, and on December 20, using an homogenous bone graft, spinal fusion was accomplished from C-1 to C-4. One stainless steel suture passed beneath the laminal arches was used to hold the body of C-1 to the body of C-2. A Minerva jacket was applied. The operative wound healed without evidence of infection.

On January 13, 1956, he had an aura con-

sisting of his hearing voices "far away," but a convulsive seizure was aborted by the intravenous administration of sodium amytal. He was placed on Dilantin sodium 100 mg. three times a day. At the patient's request to be returned to his home because of a "fear of impending death," he was discharged on January 25, 1956. On the day prior to discharge, he had nausea and vomiting which he attributed to eating chile con carne.

Eight days after being discharged from the hospital in Baltimore, he reentered the hospital in Detroit, complaining of severe headaches which began in the frontal area and extended to the occipital area. He stated that these headaches had been present for two weeks and were throbbing in character. He gave a history of recurrent nausea and vomiting since being discharged from the hospital in Baltimore. At time of admission his weight was 152 pounds as contrasted with 180 pounds six months earlier. His temperature at time of admission was 98.6° F., pulse 44 per minute, and blood pressure 120/60. The fundi showed papilledema bilaterally with hemorrhages on the right. The left patellar reflex seemed more active than the right. General physical examination and neurological examination were otherwise normal. Laboratory studies showed urine analysis normal, hemoglobin 14.6 gm., and white blood cells 11,600 with 75% polymorphonuclear neutrophils. On February 5, a left occipital ventriculostomy was performed. Postoperatively, the patient became unconscious and had a generalized convulsion with eyes deviated to the left for several minutes. He responded subsequently, but the following day became comatose with extensor rigidity of all extremities. He expired on the second postoperative day.

Post-mortem examination disclosed a brain abscess deep in the right parietal lobe from which was cultured a pure growth of hemolytic staphylococcus aureus. There was cardiac hypertrophy and dilatation, the pericardium was adherent, and there was evidence of rheumatic heart disease with slight chronic mitral valvulitis. The bone of the second cervical vertebra obtained at autopsy was reported as exhibiting slight focal fibrosis of the marrow spaces. Some of this fibrous tissue showed telangiectasis, and some of the

marrow spaces contained hematopoietic tissue. No new growth was present.

Case 2. J. E. R., #136-4-22, 48-year-old female, was admitted to University Hospital on May 6, 1957. She stated that she had enjoyed good health until two months prior to admission when she began to have constant dull pain about the neck and lateral aspect of both arms. The pain was aggravated by coughing and sneezing and associated with weakness of both arms and hands. On examination, there was stiffness of the neck and tenderness about the spinous processes of the cervical vertebrae. There was interlaminal tenderness at the C-5, C-6 interlaminal space and hypesthesia over the C-6 dermatome bilaterally. Anterior flexion of the neck and compression of the jugular veins caused pain along that dermatome.

Roentgenograms of the cervical spine showed a destructive lesion of the body of the fifth cervical vertebra (Fig. 6); thought possibly to be due to metastatic carcinoma, tuberculosis, or myeloma. Cervical halter traction begun on May 8, 1957, relieved most of her symptoms, though she continued to complain of slight shoulder pain. Intravenous urography on May 22, 1957, revealed a normal urinary tract on the left. There was a pelvic mass producing minimal early obstruction of the right ureter, with minimal dilatation of the right renal pelvis and upper one-half of the right ureter. On May 17, 1957, under general anesthesia, a size #17 spinal needle was introduced from the right antero-lateral aspect of the neck into the lesion in the body of the fifth cervical vertebra (Fig. 7). Microscopic examination of the needle aspiration biopsy disclosed a chordoma.

Comment

Neurological surgeons and orthopedic surgeons are accustomed to approaching the cervical spine through a posterior incision. In neither of the cases here reported did such an attack seem practical. The management of Case 2 seemed rather straightforward, the concept of aspiration biopsy in the diagnosis of lesions of the vertebral bodies being a recognized one.⁴ The technical chore of correctly placing the needle was guided and confirmed by

Fig. 6. Destructive lesion involving body of fifth cervical vertebra.



Fig. 7. Aspiration biopsy of lesion involving body of fifth cervical vertebra.



radiography. A direct surgical approach through the same route should occasion no particular technical problem. Attention has been recently focussed on such a surgical technique by Cloward's description¹ of an anterior approach for removal of ruptured cervical disks followed by vertebral body fusion. To date this procedure has been adopted in only a few neurosurgical clinics.

The technical problems posed by Case

1 were different from anything else in our clinical experience. When faced with the management of this unique problem we could find only one reference suggesting a transpharyngeal (or peroral) approach to the upper cervical region. Scoville and Sherman in 1951² in discussing *Platybasia* stated: "Future surgical advance lies in the development of a successful removal of the odons itself, possibly from an anterior approach

through the mouth, thus preventing its impingement on the ventral surface of the cord and medulla." They stated that the approach through the mouth had been found feasible on a cadaver. While this paper was being prepared there appeared another publication pertinent to the present discussion. Southwick and Robinson³ reported a case in which "a very large bone tumor growing from the second cervical vertebra was removed without complication through the pharynx." Although neither of us knew of the others' efforts in this direction, the techniques employed were similar. Both of us preceded the operative procedure by performing a tracheostomy, utilized the Trendelenburg position, and packed the pharynx inferior to the operative area in order to prevent aspiration of fluid. For the same reason, both of us recommend suctioning the nasopharynx at the termination of the procedure before removing the pack and returning the patient to the prone position. Whereas we elected not to suture the incision in the posterior pharyngeal wall, they approximated this incision with catgut sutures. Mindful of the danger of infection, they applied chemotherapeutic agents topically and we employed them systemically.

Southwick and Robinson³ minimize the danger of infection following such a procedure, calling attention to the number of retropharyngeal abscesses, pyogenic and tuberculous, which have been incised and drained through the mouth without inflammatory complications. With our patient having died of a brain abscess, we cannot dismiss so lightly the possibility of inflammatory complications. The lymph node biopsy was made eight days before and the needle aspiration biopsy of the second cervical vertebra four days before his first convulsive seizure, whereas the transpharyngeal operation was carried out

ten days after this episode and the spinal fusion six and one-half weeks after the convulsive episode. The likelihood of any of these wounds representing the portal of entry for the organism responsible for the brain abscess is lessened by the fact that each of these wounds healed *per primum* with no evidence of infection. Also one must question any relationship between the convulsive seizure and his brain abscess in that spinal puncture done the day following the first seizure showed normal cerebrospinal fluid under normal pressure. We had regarded basilar artery insufficiency secondary to the atlanto-axial subluxation as a likely cause of the convulsive episode. We have seen intracranial suppuration result from Crutchfield tongs perforating the inner table of the skull, but in this case the tongs did not enter the cranial vault. We cannot then make any dogmatic statement concerning a relationship between the transpharyngeal operation and the brain abscess which caused this patient's death. With the passage of time, it is likely that others for one reason or another will employ this surgical approach, and thereby we may learn more as to the incidence and prevention of inflammatory complications.

Because of the rarity of lesions in these areas, the techniques described here will have quite limited application. Periodically the suggestion is made in cases of atlanto-axial fracture-dislocation that the free fragment of odontoid process be removed surgically. Although we have never encountered a case in which such a course seemed advisable, it would appear that this could be accomplished transpharyngeally with relative ease. The lack of a definite diagnosis imparts an unfortunate distinction to our case 1. Certainly this tragic saga culminating in the death of this unfortunate young man is the report of neither a diagnostic nor a therapeutic

triumph. We do, however, wish to emphasize that the upper cervical region may be approached through the mouth, that the technical procedure is quite simple, and that with a longitudinal incision in the midline of the posterior pharyngeal wall only minimal bleeding is encountered.

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Acknowledgment.

The authors are indebted to Dr. R. K. Thompson for details as to the clinical course of case two.

ABSTRACTS

SPURLING, CARROLL L., and SACKS, MILTON S.: Inherited Hemorrhagic Disorder with Antihemophilic Globulin Deficiency and Prolonged Bleeding Time (Vascular Hemophilia). New England Journal of Medicine, 261:311-319 (Aug. 13), 1959.

Since 1953 a number of reports have described a hemorrhage disease characterized by a deficiency of antihemophilic globulin and a prolonged bleeding time and have suggested that it represents a clinical entity. It is likely that cases of this type were classified previously in the heterogenous group labelled pseudo-hemophilia or von Willebrand's disease.

Two patients with this disorder, both of them girls, have been studied. Both had had hemorrhagic phenomena since infancy consisting mainly of hemorrhages into the skin and from mucous membranes. The family histories of both patients suggested that the bleeding disorder was familial, although coagulation studies on family members were within normal limits.

The only persistently positive coagulation studies were a prolonged bleed-

ing time, diminished prothrombin consumption and impaired thromboplastin generation due to a plasma defect. Various mixing experiments indicated that the patients have the same disorder, that the plasma defect is probably a deficiency of antihemophilic globulin, and that the plasma defect (but not the prolonged bleeding time) can be corrected transiently with the administration of fresh blood or plasma. No other effective therapy is known.

Based on studies in these cases and on a review of the available literature, the typical clinical picture and laboratory findings are described. A high familial incidence has been found. Antihemophilic globulin deficiency seems to have been established and is responsible for the diminished prothrombin consumption and the defective thromboplastin generation. It is not known whether the prolonged bleeding time is due to a vascular defect or to a deficiency of some plasma factor. It is recommended that the disorder be referred to as indicated in the title until the basic hemostatic defects are clarified.

OBSTETRICAL CASE REPORT

Prepared by Alan M. Hollett, M.D.*

THE PATIENT was a 19-year-old primipara who was admitted to the hospital in early labor with membranes intact.

Her past history, family history, and review of systems were essentially negative.

Physical examination on admission revealed a blood pressure of 110/70, pulse 70, respiration 16, and temperature 98.6. The lungs were clear. No murmurs or arrhythmias were noted on examination of the heart. On examination of the abdomen, the uterine fundus was measured 27 cm. above the pubic symphysis. The fetal heart beat was 140 per minute. The estimated fetal weight was 7 lbs. Rectal examination revealed the cervix to be 3 cm. dilated and 100% effaced. The presenting part was 2 cm. above the ischial spines (station minus 2), and the position was left occiput transverse.

Laboratory data included a hemoglobin of 13 grams and a negative urinalysis. She was Rh positive. Serologic test for syphilis was negative.

Uterine contractions occurred every four minutes, lasted 30 to 45 seconds, and were of moderate intensity. During the next three hours, the membranes ruptured and she progressed to six cm. cervical dilatation. However, the presenting part remained two cm. above the ischial spines. The obstetrician ordered a pelvimetry at this point because the head was not descending despite ruptured membranes, good contractions, and progressive cervical dilatation. The pelvimetry showed an obstetrical conjugate of 11.0 cm., a transverse of the inlet of 11.0

cm., an interspinous diameter of 9 cm., and an anterior-posterior of the outlet of 12 cm. It was noted on the lateral view that the biparietal diameter of the head had not negotiated the pelvic inlet, and therefore the head was unengaged. The patient made slow progress and in another six hours was fully dilated. Now the presenting part was one cm. below the ischial spines (station plus 1). The vertex was still left occiput transverse, and a moderate amount of molding was felt. The patient remained fully dilated for two hours without progress. Her contractions were still good. The obstetrician now felt that a trial midforceps delivery should be attempted, and if this failed, a cesarean section should be done. Before attempting a midforceps delivery, he obtained another lateral pelvimetry. This still showed that the biparietal diameter of the fetal skull was above the pelvic inlet even though by rectal examination the presenting part was one cm. below the ischial spines. A low cervical cesarean section was then performed with delivery of a 7½ lb. living male child, which except for marked molding of the head, was otherwise normal.

The above case illustrates that with molding of the fetal head clinical examination may lead one to believe that the vertex is well engaged in the pelvis, when in fact it is not. Without another X-ray, the obstetrician might have attempted what he thought was a midforceps only to be doing a high forceps with great risk to mother and fetus.

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The Use of Fulvicin (Griseofulvin) for Superficial Mycotic Infections

HARRY M. ROBINSON, SR., M.D.

PATIENTS with dermatomycoses may have a basic defect of the immunologic mechanism since many others, similarly exposed, do not become infected.¹ Dermatophyte infections usually are chronic and highly resistant to therapy: the victims are afflicted for years and until very recently there has been little or no hope for relief.

The introduction of griseofulvin* for clinical use has radically altered this situation. Although griseofulvin was identified by Oxford and colleagues² in 1939, in the next two decades it had been used only to eradicate fungi in plants. The therapeutic possibilities of griseofulvin were indicated by the recent work of Gentles and colleagues^{3,4} and Martin⁵ who used it to treat artificially induced ringworm in guinea pigs. Oral administration resulted in rapid disappearance of the infection in the treated animals³ and significant deposits were found in the keratin layer of the hair.⁴ Griseofulvin was also effective topically in experimental tinea but much less so than the

oral form.⁵ The toxic dose in laboratory animals is extremely high.⁶

Griseofulvin was first used in man by Riehl,⁷ who reported strikingly rapid relief from resistant dermatomycoses, without local therapy, in 15 patients. Additional clinical trials by Blank and Roth⁸ (31 patients), Goldfarb and Rosenthal⁹ (17 patients), Goldman and colleagues¹⁰ (46 patients), Reiss¹¹ (36 patients), Sulzberger and Baer¹² (30 patients), and Williams and colleagues¹³ (9 patients) confirmed the efficacy of griseofulvin in fungous infections due to *Microsporum audouinii*, *Trichophyton rubrum*, *T. mentagrophytes*, or *T. tonsurans*. The usual dosage was 250 mg. four times daily although higher doses have been used occasionally.

Methods

Our preliminary evaluation of Fulvicin was made among seven children and nine adults with tinea of the scalp, skin, or nails (see table). Positive microscopic examinations of scrapings from skin or nails, and the characteristic fluorescence of infected hair under the Wood's light, confirmed the clinical diagnoses. Biologic identification of the organism was made in culture.

*Griseofulvin is available as Fulvicin from the Schering Corporation, Bloomfield, New Jersey. A clinical supply was made available for this study by G. Kenneth Hawkins, M.D., of the Division of Clinical Research.

TREATMENT OF DERMATOMYCOSES WITH FULVICIN

Diagnosis	Number of patients	Age range	Duration of treatment	Results			
				Apparently well	Major improvement	Some improvement	Treatment incomplete
tinea capitis; <i>M. audouinii</i>	4 males, 1 female	3-12	2-9 weeks	5	—	—	—
tinea corporis; <i>M. lanosum</i>	2 females	5, 7	9 weeks	2	—	—	—
tinea corporis; <i>T. rubrum</i>	1 female	27	4 weeks (intermittent)	1	—	—	—
onychomycosis; <i>T. rubrum</i>	3 males, 5 females	23-66	1-30 weeks	2	2	1	3

Several patients had been under treatment for some time, with various topical preparations, before Fulvicin became available. Although transient symptomatic relief had occurred, it had never been possible to cure the disease by eradication of the parasite.

Fulvicin was administered in doses of one tablet (250 mg.), three times daily for young children and four times daily for adults and older children. Two adults with especially severe involvement received six tablets daily for brief periods of time. The average duration of therapy was two months; however, two patients received the drug continuously for seven months and several are still under therapy. (We prefer to administer Fulvicin for at least two weeks after cure is obtained.)

Patients were examined weekly during the period of therapy and then at monthly intervals. Urinalyses and blood counts were performed regularly.

Results

In the five children with tinea capitis, there was a growth of clinically normal hair in the previously alopecic or infected areas after approximately four weeks of treatment. The fluorescence gradually became confined to the distal portions of the hair as the new, uninfected growth

emerged, and was entirely absent by the eighth or ninth week.

Two children, siblings, were relieved of chronic recurrent tinea of the face, neck, and trunk after five weeks of treatment. We eventually persuaded the children to part with a dog which had been the source of infection, and therefore permanent cure has resulted (four months later).

One patient with circinate lesions of the buttocks made a practice of accepting treatment for one or two weeks and then disappearing for several months. This had happened three times over a period of about seven months. Since the disease was slightly less resistant than the patient, complete relief was eventually obtained. It seems likely that this could have been accomplished in less than two months of continuous administration.

Two of the eight patients with onychomycosis have completed treatment at this time. Cure was obtained in three months in one patient and in seven months in the second. Three patients have been treated thus far for one to five months with marked improvement; therapy is being continued. The diseased portion of the nail is gradually being replaced by healthy growth. It is not possible to evaluate results in one patient who has been treated for only two weeks

thus far and in two others who discontinued therapy after one or two weeks.

No untoward reactions occurred except in one patient with onychomycosis who reported the development of wheals after two weeks of therapy; she chose to discontinue the drug.

Urinalyses yielded normal results in all patients during and after administration of Fulvicin. Blood chemistry values were unaffected except in two patients in whom the leukocyte count was decreased from 6000/cu.mm. to 4250/cu.mm. and from 6500/cu.mm. to 4300/cu.mm. during therapy. At the conclusion of treatment these values returned to and remained at the control levels.

Discussion

Apparently Fulvicin is absorbed from the gastrointestinal tract and deposited in newly growing skin, hair, and nails. This inhibits the growth of dermatophytic fungi, but is not actually fungicidal; the fungi remain viable but do not invade new tissues. Gradually the parasitized area is replaced by normal structures which are free from fungi.

Tinea of the scalp and skin usually responds to therapy quite rapidly. Relief of pruritus usually occurs within a week, and objective clinical evidence of improvement follows within several weeks. In hyperkeratotic skin, such as that of the palms and soles, progress will be slower. In onychomycosis administration for several months is required, although a growth of healthy nail is often observed as early as the third week of therapy. Therapy should be continued after clinical cure until all laboratory examinations are negative.

Minor side effects have been reported by various investigators. Headaches,^{8,9,12} fatigue,^{9,12} diarrhea,⁹ or gastric dis-

tress^{8,10,11,13} occurred occasionally during the first days of therapy but disappeared spontaneously despite continued administration of griseofulvin. Maculopapular eruptions occurred in two patients^{8,9} and transient pruritus in two.⁸ The results of urinalyses and hemograms performed during and after therapy were not significantly different from control values.^{7,9,11,12}

Goldman and colleagues¹⁰ investigated the factors of resistance and relapse associated with griseofulvin therapy. Although response in some patients was slow, true resistance was never encountered. Two patients with *T. rubrum* infections of the smooth skin apparently relapsed some time after therapy was discontinued.

Griseofulvin should be administered only to patients in whom the diagnosis of fungous infection has been confirmed by culture since the agent is ineffective in other dermatoses.^{1,12,14}

Summary and Conclusion

Fulvicin (griseofulvin), 250 mg. three to six times daily, was administered orally to 16 patients with tinea capitis, tinea corporis, or onychomycosis due to *Microsporum audouinii* or *lanosum* or *Trichophyton rubrum*. Infections of the scalp or skin were cured in an average of eight weeks. Several months of therapy were required for eradication of onychomycosis.

Urinalyses and blood chemistry values remained essentially unchanged despite continued administration of Fulvicin for as long as seven months. There were no clinical side effects except development of wheals in one patient.

Preliminary studies with Fulvicin suggest that consistently good results may occur in many types of dermatomycoses.

Species of *Microsporum* and *Trichophyton* which resist standard antifungal measures are highly vulnerable to this agent.

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Etiologic Considerations of Angina Pectoris and Coronary Occlusion

WALTER F. OSTER

ETIOLOGIC considerations of angina pectoris and coronary occlusion envelops a study of the pathological aspects of the coronary arterial blood supply and the consequent reflections upon the myocardium. Thus, the disease is in the coronary arteries, but the major consequences and clinical symptoms stem from the resulting damage to the myocardium. At present, heart disease is the leading cause of morbidity and mortality in the United States. In a series of 3000 cases, coronary vascular disease made up 40% of the total—followed by hypertensive heart disease and rheumatic heart disease, approximately 25% each. It is especially common over the age of 40. There exists some debate, whether or not, coronary disease is actually on the increase; or now occupies the interest of medicine, and the public at large, through better diagnostic procedures, advances made in other heart ailments—*i.e.*, rheumatic fever, congenital conditions, etc., or the greater aging of the population—all of which would increase the relative incidence of this notorious condition.

Actually, coronary heart disease encompasses quite a variety of predisposing conditions; however, the one common denominator appears to be myocardial ischemia. This ischemia may be manifested by increased heart demands, such as work or decreased supply through decreased oxygenation or a reduction in coronary flow. Among such conditions as valvular lesions, leucic ostial stenosis,

coronary embolism, hypertension, periarthritis nodosa, anemia, some congenital conditions of the coronary arteries, Buerger's disease, rheumatic arteritis, dissecting aneurisms, shock, and many others—is arteriosclerosis—hand in hand with atherosclerosis—which is responsible for 95% of all cases of myocardial damage due to ischemia. Thus, coronary heart disease, in general usage, is usually synonymous with coronary atherosclerotic heart disease. Therefore, mindful of the high incidence of this disease, it is little wonder that the process of arteriosclerosis and atherosclerosis have come under such close scrutiny and intensive research in the past several decades.

Although the nature of the atherosclerotic process is still unsolved, research and statistics have furthered our comprehension of the process, and our understanding of the pathogenesis of the resulting myocardial disease appears to be on firmer ground.

There have been many interesting observations made in relationship to atherosclerosis. Arteriosclerosis and atherosclerosis—are rare at birth and parallel the rising age level. There is apparently some relationship to sex—being two to four times more common in males until the menopausal period in the female—after which the occurrence in the two sexes is approximately equal. This would suggest a hormonal relationship. However, while this holds true among the white race, a recent survey demonstrated

an equal incidence in negro males and females, and the incidence among the negro to be less than among the white. Entrogen has been shown to be of some value in experimental animals, but its value clinically has never been proven. I think, at present, many investigators are of the opinion that other factors are more important. Atherosclerosis at a younger age is usually associated with disorders involving hypercholesterolemia—that is diabetes, xanthomatosis, nephrosis, hypothyroidism, etc. There is increased incidence in obesity, suggesting a possible metabolic or dietary origin. The lipid fractions in the blood in these hypercholesterol conditions closely parallel the quality and quantity of the atheromatous deposits. However, except in these hypercholesterol states, the usual aging type of atherosclerosis is unaccompanied by hypercholesterolemia, and attempts at correlation between cholesterol levels and atherosclerosis have been disappointing. Atheromas tend to occur at points of stress in the vascular system, and are particularly increased in hypertension. Hypertension accounts largely for the atherosclerosis in the juvenile years—often with normal blood cholesterol. Rarely do plaques occur in the venous side, even with phlebosclerosis and venous hypertension—for venous hypertension is considerably less than arterial hypertension. When, however, plaques do appear on the venous side, these conditions are present and chronic.

It has been shown that arteriosclerosis normally occurs. There is progressive thickening of the intima and the elastica—perhaps due to the constant pounding blood pressure through life. At birth the intima is 6μ . At 10 years it is 54μ , at $35-124\mu$, at $50-181\mu$, and at 70 years 190μ . Arteriosclerosis is not a disease of the aged—it occurs throughout life.

There is considerable evidence that atherosclerosis is constantly associated with intimal thickening; and, in addition, is the result of intimal thickening and not vice-versa.

Finally the role of genetics and/or abnormal lipo protein metabolism must be considered. In certain cases there seems to be a genetic predisposition. Abnormal lipo protein fractions have been found in many cases of atherosclerosis, but far from all. It has been shown that serum cholesterol levels are influenced by alteration in the types of dietary fat provided. In laboratory animals, unsaturated fatty acids developed distinctly less atherosclerosis than those fed cholesterol alone or cholesterol plus saturated fatty acids. This apparently is the basis for the appearance on the drug market of such unsaturated fatty acid compounds as Saff. However, at present there is no real sound basis for considering these upsets in blood lipids, either genetic or induced, as a primary etiology in atherosclerosis.

In any particular case of arteriosclerosis or atherosclerosis, not all of these conditions are present—however, invariably, at least one of the above factors can be demonstrated. This suggests that perhaps none of these conditions is the primary etiology, but merely a reflection of some other foregoing change.

Our recent experimental work has shown the acceleration of intimal atherogenesis through prior medial injury. Animals are given epinephrine or thyroxin in sufficient toxic doses to produce medial damage. In these animals, a mild and transient hypercholesterolemia produced measurable intimal atherosclerosis in obviously predamaged areas and also in some areas without demonstrable evidence of previous damage. It was concluded, from these investigations, that

focal medial damage greatly augments the atherogenic response of the intima to lipemia.

Another series of investigations was focused on the microscopic process of atherosclerosis. Lipo protein molecules are taken up by the endothelium of the capillaries—and appeared in the "cysterns" of the endoplasmic reticulum and consequently—in the extracellular spaces. From here they were taken up by phagocytic cells that are soon to become "foam cells." These foam cells accumulate, a plaque forms, followed possibly by necrosis and/or fibrosis.

Perhaps there is normally some passage of molecular substances through the endothelium, and thus the vessel wall—being subsequently drained away by the vessel lymphatics and the vaso-vasorum. Perhaps with intimal thickening, that seems to occur with age, or other processes that might interfere with this drainage, excessive molecular substances accumulate in the vessel wall; and since the lipid molecules are less soluble than the other blood molecular constituents, these precipitate and deposit in the intima or media. Thus atherosclerosis might occur with normal blood lipid levels. In hyperlipemic states, or high blood pressure, there is no necessity for presupposing a previous intimal thickening, for one could say that excessive lipoids will pass or be pushed through the vessel wall—elevating the lipid content of the vessels at any particular time.

Perhaps the best conclusion one can draw—is that the process and etiology of atherosclerosis needs much work.

It is difficult, and actually impossible, to separate coronary artery disease from its manifestations. The clinical picture of the diseased myocardium is the first evidence we have of foregoing changes in the arterial walls—except of course for

autopsy findings. Angina pectoris is the most benign condition in the clinical scale. The term literally means a throttling or suffocation of the chest and was first introduced in 1768 by Heberden as a disorder of the breast. It was Jenner, some years later, who related the condition to heart disease. However, it was not until 1912 that Herrick gave the classical description of coronary occlusion. The precipitating factors behind this condition are still much in doubt. Historically the condition is believed due to transient coronary ischemia, without myocardial infarction, due to vasospasm of the coronary arteries. In support of this view rest and/or coronary vasodilators, *i.e.*, nitroglycerin, promptly relieve the angina attacks. However, recent work with injection studies invariably reveal inclusions of small vascular, almost invariably, arteriosclerotic occlusions, and the absence of myocardial damage is due to the collateral circulation of the small area of myocardium involved. The vasospastic theory intimates that the condition is reversible and without permanent significance while the occlusive theory intimates that repeated attacks bare the danger of serious encroachment on the vascular supply and a mounting danger to life. There is transient, if any, EKG change—probably as a result of the small area involved. However, in spite of the widespread belief that there are no changes in the myocardium, in patients with repeated angina attacks—there can be demonstrated on autopsy in most, if not all hearts, small occlusions by injection techniques and often diffuse small areas of fibrosis. Studies of long series indicate that most patients with long histories of angina die of decompensated arteriosclerotic heart disease or myocardial infarction within 10 years of the

first attack. Perhaps the vasodilators improve the efficiency of the collateral circulation or open the affected arteries for enough time, especially when coupled with decreased demands of the heart, for the affected myocardium to remain somewhat viable till some collateral circulation can develop. I do not think that the success of vasodilators warrants the conclusion the etiological factor is vasospasm; but rather the constant relationship of arteriosclerosis and atherosclerosis with minute anatomical findings possible lends support to the arteriosclerotic basis. Since angina is constantly associated with exertion, perhaps the narrowed arteriosclerotic arteries cannot meet the increased demands of the heart and ischemia results.

Angina pectoris classically is associated with crushing substernal or precordial pain that radiates to the throat or arms. The diagnosis is usually made on the history alone, and confirmed by the response to vasodilators. There are usually no other clinically demonstrable symptom etology or tests. The characteristic pain is the only indication we have of underlying coronary artery disease. Thus it becomes important to consider in diagnosis the conditions that may stimulate angina and perhaps it is of some value if we look briefly at the approximate areas of referred pain. The body organs are innervated by sympathetic and parasympathetic efferent fibers and sensory afferent fibers. The afferent fibers have their cell bodies in the spinal ganglia of the posterior roots but follow the efferent fibers in their distribution to the viscera. Thus reflex arcs can be maintained by these afferent fibers and sensory impulses conveyed to the brain. Perhaps these incoming impulses have in common pathways to the brain with skin sensory innervation. We are not

usually aware of visceral sensations, thus when they do arise, often they are interpreted as sensory impulses from the skin areas—which we are used to receiving. There is some evidence that a sort of summation effect may occur from impulses originating in the skin and in the viscera—in that viscera pain can, in part, often be relieved by local anesthesia in the referred skin area. In addition, several viscera refer impulses to the same cord area, and thus have approximate skin reference area, and diagnosis of affected viscera becomes difficult. For instance, the heart is referred to C3 to T8, the lungs and diaphragm C3-C4; and in fact, most of the proximal organs to the transpyloric plain might be referred to similar areas. In addition, the anterior chest wall syndrome, root pain, musculo-skeletal abnormalities, etc., may become involved. In cases of confusion, however, the diagnosis of angina can usually be confirmed by the relief obtained by nitroglycerin.

The next result of coronary artery disease is rather vaguely termed—"acute coronary insufficiency." This is actually a condition of severe angina pectoris with prolonged myocardial ischemia in which infarction may or may not be present or clinical evidence is insufficient to make an actual diagnosis of infarction. It at least denotes a more serious condition of angina pectoris without, however, the syndrome accompanying myocardial infarction.

The single most serious type of heart disease is myocardial infarction. Whereas angina pectoris usually appears to be precipitated by exertion no such relationship holds for myocardial infarction; and in fact, many cases occur during sleep. Again there is constant association with arteriosclerosis and atherosclerosis. Although the occlusion may be due to a

large atheromatous plaque, more usually the final blockage is caused by a superimposed thrombosis—often the result of an ulcerated plaque, hemorrhage into the plaque with rupture, or some sort of similar means. The plaque, so to speak, forms a nidus. The left ventricle is most often affected and this is probably best explained on the blood supply. Occlusion of any part of the left coronary artery affects the left ventricle; and in addition, occlusion of the right coronary at any point distal to the first 5 or 6Cm produces its major effects on the septum and the posterior wall of the left ventricle. If the patient survives, necrosis and scarring occur; and if the infarct was severe enough, the endocardium may be involved with a mural thrombus forming, or a pericardial friction rub might result.

The symptoms of myocardial infarction are similar but usually more severe than angina pectoris. The origin of angina pain probably stems from a slowly forming ischemia superimposed on an actively working muscle and aggravated by increased activity. Ischemia alone, in a non-exercising muscle—as can be demonstrated by a tourniquet on the forearm—produces anesthesia. A slowly developing ischemia, giving sufficient time for collateral circulation to develop, as in atherosclerosis, is associated with less severe, or possibly even absent pain, on exertion, than a sudden occlusion. Thus a narrowed artery without occlusion may give rise to angina when ischemia is produced by exertion, but a more severe pain usually results on superimposed, or primary, occlusion. Generally speaking, the rapidity and intensity of ischemia is as important in the production of pain, as the duration of ischemia is important in the production of infarction. Due to the severity of

the infarction, other symptoms arise—nausea, vomiting, shock, arrhythmias, pulmonary edema, leukocytosis, fever, increased sedimentation rate, elevated C-reactive proteins, and transaminase levels are some more common findings and usually persist as long as necrotic myocardium is being absorbed. Diagnostic tests now include determinations of many of these factors.

The majority of deaths in myocardial infarction are so called "mechanism" deaths, which include ventricular fibrillation and cardiac standstill. Recent work indicates that electrical instability results from a current of oxygen differential at the boundary between an anoxic area and surrounding normal myocardium. Uniform anoxic hearts are found to be electrically stable. Perfusion of a small area of an anoxic heart with oxygenated blood produced a sort of reverse instability with resulting ventricular fibrillation. Needless to say, such observations have therapeutic implications. Congestive heart failure and cardiac arrhythmias are other common manifestations of coronary artery disease which actually are a result of long standing angina or myocardial infarction. The congestive failure is the result of lost cardiac function which stems from the encroachment of scar tissue at the expense of the myocardium. Ectopic arrhythmias and bundle branch block commonly result and can be correlated with areas of necrotic tissue.

In summary, the clinical manifestations of angina and infarction are preceded by a long chain of events. The most dominating etiologic condition is coronary artery disease or arteriosclerosis and associated atherosclerosis. There results a narrowing, roughening, and tortuosity of the coronary arteris. Often an atherotic plaque will rupture. The result is a sluggish blood flow, often

ischemic with increased heart demands, and now predisposed to thrombosis and occlusion, affected myocardium, and all the manifestations thereof. Angina pain is associated with and usually in proportion to myocardial ischemia; and if the ischemia prolonged, infarction results—which indicates irreversible ischemia. Lines of research have followed drugs and surgery to relieve already established coronary artery disease; but if, and when the precipitating events that lead to such disease are well known, perhaps clinical application will free man from the pain of angina, and the consequences of ischemia and infarction; and a longer and more productive life will be forthcoming for the many people affected, or to be affected with, this entity.

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Shall an Older Student Be Admitted into Medical School?

HERBERT RIBNER, M.D.

THE OBSTACLES which face a person over the age of 30 who intends to embark on a medical career are formidable, indeed. One of the most serious obstacles is the reluctance of medical schools to accept an "older student" because of his age, although he is otherwise qualified. The reasons for this objection appear to be based on two suppositions: 1) that a person over 30 years of age is incapable of academically surviving the rigors of the medical school curriculum, and 2) that it is preferable to admit a younger man since he promises to give more years of service to the profession than an older man.

This paper is therefore intended to raise the following questions: 1) does there exist among medical educators the belief that "the older student cannot make it;" 2) is there some experience to show that at least as far as the medical school curriculum, and state, and national board examinations are concerned, the older student "can make it;" 3) are there any advantages which may accrue to medicine from the acceptance of the older student, and 4). what shall be the policy for the future.

The writer, who was 37 when he applied to medical school, recently received his M.D. degree. During his student period he pursued the problem with members of faculties of his own and other medical schools. In this he was motivated

by the suggestion of the Chairman of Admissions of a midwestern medical school who wrote . . . "perhaps through yours and other comparable experiences we will be able to learn something which will enable us to do a better job and a fairer one with the older applicant." In addition, the experience of the University of Maryland, which since 1955 has not hesitated to admit older students, has served to make available to the writer a situation wherein to observe the success or failure of the accepted view of the older students' academic capacities.

Some Educators' Views

Walter Lippman uses the word "stereotype" to describe a situation where a word or a phrase acts symbolically to elicit a predetermined conviction. "Older student" appears to act as a stereotype to some medical educators and to elicit the response "they'll never make it." One admissions committee member related that his institution had never accepted a student over 30 because they did not believe that he could survive the first two years. Another particularly kindly medical school official, speaking for his own school but adding, "I believe similar opinions are held elsewhere," wrote:

"The experience here has led us to discourage vigorously applications from candidates over the age of 30. Indeed, men in their late 20's seem to have undue difficulty if admitted, even though their previous academic achievements

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have been top notch . . . as unpleasant as it may sound, those of us who have passed the age of 30 are unable to keep up the pace over the long period involved. . . ."

Although this was the generally accepted opinion held by those educators with whom the writer discussed the question, few medical schools openly state this objection in their school publications. Nevertheless, it is interesting to note that some schools feel so strongly on the subject that at least seven stipulate a maximum age limitation in their catalogues ranging from 30 to 35 years.

The Maryland Experience

In contrast to these views the experience at the University of Maryland is offered as an example of how older students have fared when admitted to medical school. From 1955 to 1959, 13 applicants were accepted who were 30 years or over at the time of admission. Of the 94 admitted in 1955 five were older students. While ten of the younger men failed to graduate with this class, these five were graduated, passed part II of the national board examinations, and passed state licensure examinations. Only one man was consistently in the lower third of the class. Of the two older students in the 1956 class, one withdrew along with five younger men. In 1957 two of a class of 94 were older men. Whereas among the younger men six withdrew and two repeated the year, one of the older men repeated, the other was in the lower third of the class. The class entering in 1958 consisted of 100 of which four were older students. Whereas five younger students withdrew, all of the older students were promoted, two of whom were in the upper third of the class.

Scholastically, if one may judge from these figures, there is justification to the contention that the younger student is more capable of doing honors work than the older student. There also appears to be a greater number of discharges and repeats per capita among the older students than the other students. Whether this is a function of age is left in some doubt in the light of the relative success achieved by other older students.

On the whole, however, the faculty has found that there were factors beyond the scholastic which more than compensated for the only average showing of the older student. Dietrich C. Smith, Associate Dean and chairman of the admissions committee, put it this way:

"As a group I would say that the older students in our school academically are neither better nor worse than the rest of our medical students. It is true that they more often stand in the lower third of the class than the upper third, but we feel this is compensated for by other factors. Certainly they are more mature, and they also appear to be more stable for none of them—as yet—has dropped out of school because of the emotional difficulties not infrequently observed among younger medical students. . . ."

"It is certainly true that our older students—and we may define this as anyone over 30—are carefully selected and the reasons for their late application carefully weighed. The Committee, however, likes to think that each applicant is judged on his merits and that we do not have any 'cut-off' age."

The prime factor which accounted for their ability to succeed in medical school was summarized by the 1955 older graduates in the word "motivation." It was their feeling that, given a proper background, and the intellectual capacities demanded of any student entering upon a medical education, a student who was well motivated could manage to deal

with any obstacle. And the one characteristic common to the older students, all of whom were in one way or another voluntarily altering the inertia of well-established lives by applying to medical school, was a firm motivation. They affirmed that it is this characteristic which an admissions committee must be able to assess in its older applicant, and in its presence, given the intellectual capacity and the financial means with which to approach a medical education, the man who yearns for a medical career strongly enough can do it. The factor of age must, then, be seen in the perspective of motivation.

The Problem of Years of Service

The argument that a younger student has more years of service to offer to medicine than an older student is valid if our criteria for measuring a physician's contribution is a quantitative one only and not qualitative. However, it cannot be gainsaid that the presence of physicians with roots in other professions can only succeed in enriching medicine. Thus, in the 1955 class one man was a lawyer who intends eventually to enter the field of legal medicine to which he thus brings a unique background. A second was a graduate of the United States Naval Academy and former Navy pilot, who plans to work in space medicine. A third, a clergyman, recently contributed an article on the religious view on the autopsy question to which he brought unusual authority.

The presence of people of such diverse backgrounds not only establishes medicine with feet in many camps, and not only can interpret medicine with authority to other professions, but brings into medicine some of the verities gleaned by

other intellectual pursuits. It also brings into medicine a student and later a physician with insight derived from dealing with people on a level other than the medical which can only serve to raise the maturity of the profession as a whole.

Recommendations

It is, therefore, believed that the policy of some medical schools which discourages applications on the basis of age is worthy of reconsideration. It is suggested that, on the basis of the foregoing, consideration be given to the data of other medical schools which have admitted older students to determine whether their experiences were similar to those of the University of Maryland. Perhaps, a summation of these findings may be presented and analyzed at some future conference of medical educators so that a definitive policy regarding the older student may be established.

Finally, let us ponder this. In many cases the older applicant has not applied late in life merely out of a recent conversion to medicine. Often it is a long aspiration which has had to be postponed by events over which he had no control. The depression which made the economic burden of a medical education unthinkable to some, or the wars of the last two decades which interrupted the normal preparatory years of education bear much of the blame. If the applicant can fulfill the academic requirements, is it ethically right to penalize him for society's failures? Can a democracy justify its failures to give the qualified a second chance?

The author wishes to acknowledge with gratitude the help offered by Dr. Dietrich C. Smith, Dr. H. M. Zimmerman, and Dr. Milton Cole in the preparation of this article, and to Mrs. Mildred Coleman for technical assistance.

BOOK REVIEWS

Clinical Dermatology, For Students and Practitioners. By Harry M. Robinson, Jr., M.D., and Raymond C. V. Robinson, M.D. Price \$8.50. Pp. 242 with 117 illus. The Williams & Wilkins Co., 428 E. Preston St., Baltimore 2, Md., 1959.

During the last six decades medicine has made some of its greatest strides and during this time the Doctors Robinson (father and sons) have been noted for setting the pace of progress in Dermatology.

This book characterizes the facility of the younger generation in that it is clear and super-concise, yet complete and extremely well illustrated. This is the "meat" that medical students look for and the short complete "tome" of reference for the "GP." Both will be aided by the Differential Diagnosis Charts and accurate description of skin diseases and their treatment.

The first 60 pages (General Considerations) are the epitome of conciseness yet are all inclusive of the basic facts of Dermatology (Histology, Histopathology, Etiology, Diagnostic Procedures, and Therapy). Here is a complete course in Dermatology in one evening's reading that all the specialists in the art of medicine might well read and recall the dermatologic manifestations of their specialty.

The remainder of the book (225 pages) is for the diagnosis and treatment of the individual dermatologic conditions by chart and type of lesion.

In the spirit of the conciseness of the book, this book should be on the book shelf of every physician (after he has read the first 60 pages). It is of the utmost use to the medical student or GP for the rest of his days.

G. ALLEN MOULTON, M.D.

Air Pollution Control. By W. I. Faith. Price \$8.50. Pp. 259. John Wiley and Sons, Inc., 440 Fourth Ave., New York 16, 1959.

This small text has been written especially for non-specialists interested in the problems of air pollution control. For the most part, the language can be easily understood by

most intelligent laymen. The book contains a wealth of material in the form of tables, charts, graphs, and pictures, which do a great deal to amplify and simplify the text.

The book covers the effects of air pollution, and a chapter is devoted to the meteorological variables involved in air pollution. A considerable portion of the book is devoted to the methods of determining various contaminants in the air and means of controlling these. Each chapter has fairly extensive references.

G. ENTWISLE, M.D.

Emergencies in Medical Practice, Sixth Edition, edited by C. Allan Birch. 751 p. with 139 ill. (15 in color). Price \$8.50. The Williams & Wilkins Co., Baltimore, agents for E. & S. Livingstone Ltd., Edinburgh and London, 1960.

This book discusses medical emergencies from poisoning to psychiatry; on land, at sea and in the air; all from a physician's (British) point of view. The drugs used have British titles but after a little searching in the table at the back of the book, one can find the American equivalent. As an example, ophthalmologic drops replace British lamellae. There is available in America a commercial antidote package which is easier to carry and store than the Universal antidote described in the text. In the section on poisoning, one might have included the raw potato in the salicaceous group. Reference to the value of heroin is valueless in the United States where the drug's use is restricted. The Kentucky colonels would surely prefer their local Bourbon to gin as a drug vehicle. Many Americans consider pancreatitis as a surgical rather than a medical emergency. The section on venomous snakes does not mention the American water moccasin or our common copperhead nor does it mention the handy snake bite kit. In the United States the dog suspected of rabies is killed and the rabies examination is best obtained by enclosing it in a plastic bag, packed in ice, and rapidly taking it to a properly equipped pathologic laboratory. The ring cutter or pair of cutting pliers would be more efficacious than

the string method suggested for removal of wedding bands. I am surprised that the physical development of a minor is sufficient to replace the age of consent. The abbreviation G.P.I. (apparently, general paralysis of the insane) is not defined.

This book probably has some use in the United States, limited by the fact that its drugs and descriptions are not in terms usual to the Americas.

G. ALLEN MOULTON, M.D.

Pediatric Pathology. By Daniel Stowens, M.D. First Edition. Cloth \$20.00. Pp. 676 with 374 illustrations. The Williams and Wilkins Co., 428 E. Preston St., Baltimore 2, Md., 1959.

This excellent work on the pathology of diseases of infants and children fills a space on the pathologist's shelves that has hitherto been empty. There has been a great need for a well-organized and comprehensive text on this subspecialty. Dr. Stowens has written such a book. In general, the book is a text for the pathologist and the pediatrician and should be of particular value to the resident pathologists who so frequently find themselves in the autopsy room with a small body and a smaller fund of information relating to diseases of infancy and childhood.

The book is subdivided into 35 chapters and an appendix consisting of "an analysis of the first 10,000 cases entered into the files of the American Registry of Pediatric Pathology which is housed at the Armed Forces Institute of Pathology, Washington, D. C." With the exception of the first six chapters which relate specifically to growth and development, and diseases peculiar to the newborn period, the scope and format of the book follow along the lines of most standard texts of pathology, *i.e.*, general pathologic processes are followed by consideration of diseases of the various systems, beginning with those of the central nervous system. The plan is logical. Most of the material is presented in a concise manner. The book is extremely readable. Because of

the breadth of a work contained in 676 pages, it is incomplete. The bibliographies after each chapter are excellent and up to date.

In his preface, Dr. Stowens notes that often the junior member of the pathology staff performs the autopsies on the newborn and pediatric problems are relegated to a position of secondary importance. Yet, the reviewer found no like observations in the chapter on diseases of the placenta, the organ probably most neglected in the routine autopsy on the newborn.

Dr. Stowens gives in some detail his hypothesis of the etiology of the Arnold-Chiari malformation which he relates "more directly to an interruption, or disturbance, in the formation of the rhombencephalon" rather than to extrinsic forces such as pressure or traction. It is unfortunate that there is no illustration to point up the defect.

The illustrations in general are of good quality. Some, however, are unfortunately poor. Figure 281, showing in profile the typical facies of an infant with renal agenesis, is reproduced from a photograph taken after the scalp had been resutured!

A number of tables are incorporated in the text. These add very much to the worth of the book.

Dr. Stowens has in one text compiled an amazing amount of information. It is the best answer yet to the so often repeated statement that the prosector finds little of worth in autopsies performed on infants. He has in one handy volume amassed information which the interested pathologist has hitherto been forced to find in numerous widely scattered references at a tremendous cost in time. What this book lacks in depth is to a certain extent made up in the well indexed bibliography. The printing is excellent. The editing is of a high order.

The reviewer highly recommends this book to pathologist and pediatrician.

ALMA B. KELLY, M.D.

ALUMNI DAY

JUNE 2, 1960 --- CHEMICAL HALL

MORNING

9-10 A.M.

Registration, 1st floor, Davidge Hall

10-11 A.M.

**Scientific Session under the sponsorship of the
Class of 1935**

Motion Picture: "Hypospadias—Complete Correction"

DR. HOWARD B. MAYS

Paper: "Problems of Thoracic Surgery"

DR. J. NORMAN WILSON

Motion Picture: "Griseofulvin"

DR. HARRY M. ROBINSON, JR.

11 A.M.

Presentation of Alumni Honor Award to

DR. STANLEY B. BRADLEY

Class of 1938

11:30 A.M.

**Annual business meeting of the Medical Alumni
Association—Chemical Hall**

12:30 P.M.

**Complimentary Luncheon—Gymnasium, 5th floor,
Psychiatric Institute. Admission by ticket only.**

AFTERNOON

Class reunions.

7 P.M.

**Annual Alumni Banquet and Dance
Lord Baltimore Hotel**

**Introduction of 50-year graduates and presentation
of Certificates of Honor**

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Editorial

Toward the Answer

It is now about ten years since a member of the National Science Foundation prophetically stated that science was building a tower of Babel. Indeed, subdivisions of science (including the medical sciences) had accumulated vast amounts of knowledge in highly specialized and technical fields where an understanding of this knowledge required not only a basic notion of the nomenclature involved but a working knowledge of certain techniques. He feared that a mounting complexity of scientific knowledge along with its quantitative aspects would stultify the ability of the individual either to acquire the information or to understand it.

Communication in the sciences (and in medicine) is, therefore, a problem of equal magnitude with the challenge of the unknown. A few societies have dedicated themselves to active study relative to the storing of new knowledge, the integration of scientific facts from one field into the other, means of communication, and a simplification of the process of understanding. Thus is born the problem of medical communication.

Sensing the eminence of this problem, interested medical editors, writers, and others of associated disciplines in 1940 organized the American Medical Writers' Association, the nation's oldest organization exclusively devoted to the study of and improvement of any phase of medical communication. The 17th annual convention of the Association will be held at the Hotel Morrison, Chicago, Ill., September 30-October 1, next.

Leadership of this Association has been assumed by Drs. Morris Fishbein, Dr. Austin Smith, both former Editors of the *Journal of the American Medical Association*, along with Dr. W. D. Snively, Jr., of the Mead Johnson Company.

Physicians who have sensed the importance of this problem of medical communication might well align themselves with the American Writers' Association and might well profit by participation in the workshops and discussions held at the annual meeting.

The Glomus Pulmonale

A Preliminary Report

VERNON E. KRAHL, PH.D.

NON-CHROMAFFIN paraganglia associated with the carotid arteries and aortic arch have been known to anatomists and physiologists for many years. In accordance with their locations they have been termed the Glomus caroticum and Glomus aorticum (or, carotid body and aortic body, respectively). They consist primarily of lobules of epithelioid or "chief" cells interspersed with several other cell types, the functions of which are not at all clear. The glomera are well vascularized by arterioles and capillaries and the epithelioid cells bear intimate relationships both to the capillaries and to specialized nerve endings. The carotid glomus located near the bifurcation of the common carotid artery is richly innervated by medullated fibers of the glossopharyngeal nerve, to a lesser extent by the vagus nerve and by non-medullated fibers of the cervical sympathetic. The aortic body lies anteriorly upon the arch of the aorta on the left, and on the brachiocephalic artery on the right. It receives its innervation from the vagus and the sympathetic. The role of these two glomera as chemoreceptors in reflex mechanisms for the control of respiration and circulation is well established.

The Glomus jugulare, a much more recent discovery, is histologically identical with the other glomera. It may, however, be present as one or more bits of glomus

tissue in the vicinity of the jugular bulb, and in various locations adjacent to the tympanic cavity; for example, along the facial nerve near the origin of the chorda tympani. In its jugular location the Glomus jugulare is intimately related to the auricular branch of the vagus nerve, but, as stated, may also lie close to the facial nerve. The early development and innervation of this glomus require further investigation. The histologic structure of the Glomus jugulare suggests that it, too, might serve as a chemoreceptor, although its functional significance has not been elucidated.

The glomera have their phylogenetic origins in the fishes as chemosensitive bodies associated with the vasculature of the gills. In phylogenetically higher forms the gill vessels or branchial arches become modified in varying degree and portions or all of some of the vessels of branchial origin disappear during ontogenetic development.

Wherever a branchial vessel persists in the adult mammal there is also found with it a small mass of epithelioid cells, richly supplied with blood from the corresponding vessel and innervated by fibers from the nerve of the same arch. Thus, the common carotid artery derived from the third branchial arch vessels has at its bifurcation a Glomus caroticum, and this body derives its sensory innervation from the nerve to the third arch; namely, the glossopharyngeal. The aortic arch which represents the persistent left

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fourth arch bears the Glomus aorticum. This receives blood directly or indirectly from the aorta and is innervated by the vagus nerve. The precise origin of the Glomus jugulare and its innervation have yet to be determined, but it is presumed to be entirely homologous with the other glomera. The fifth branchial arch does not persist in any recognizable form in man and so its corresponding glomus probably disappears also. (The possibility is not precluded, however, that the so-called supracardial bodies and other variable bits of glomus tissue in the vicinity of the aortic arch may represent the persistent epithelioid organ of the fifth branchial arch.)

To my knowledge, no one has ever described a glomus specifically associated with the sixth branchial arch. The ventral portions of this arch persist in man on both right and left to provide the pulmonary arteries. On the left, the dorsal portion persists, as well, as a patent channel—the Ductus arteriosus. At birth, however, the lumen of this communication between left pulmonary artery and aorta normally is obliterated and it subsequently becomes a fibrous cord termed the Ligamentum arteriosum. I reasoned that if a glomus had persisted with the remnants of the sixth arch it should be sought near the origin of the pulmonary arteries from the pulmonary trunk. Furthermore, it should bear a strong histologic resemblance to the other glomera, receive its blood supply from the pulmonary artery and derive its sensory innervation from the vagus nerve. Briefly stated, a careful examination of the area in question revealed a glomus which fulfilled all of these conditions.

Findings

Dissections of the thoracic distribution of the vagus nerves were carried out

in embalmed and fresh human material, in dead and living dogs, and in cats and monkeys in which the lungs and mediastina had been treated with various histologic fixatives.

Although the origins and courses of the vagal branches varied somewhat with the species, in each case a branch from right and left vagi could be followed caudally and medially until they converged at or near the dorsal aspect of the bifurcation of the pulmonary trunk. In each specimen a block of tissue was then removed which included the pulmonary bifurcation, the surrounding adventitia, fat, lymph nodes, and vagal branches. These blocks were fixed either in Zenker-formol or Bouin's solution and eventually sectioned serially at 10μ and stained with Hematoxylin and Eosin.

In each species studied thus far a mass of true glomus tissue was found in the adventitia on the dorsal aspect of the bifurcation of the pulmonary trunk. The glomus varied in size and configuration with the species, ranging from one to two millimeters in diameter. In most specimens the glomus consisted of a number of lobules of epithelioid cells with intervening and surrounding connective tissue, but in the dog the glomus comprised five or six separate masses of glomus tissue covering an area of from two to three square millimeters. Although special staining has not been done as yet to reveal the nerve endings upon the epithelioid cells, the H&E preparations clearly show many twigs of the vagus nerve in intimate relationship to the glomera.

In this very brief preliminary report a complete histologic description of the glomus will not be attempted. It does not differ markedly, however, in any way from the many published illustrations of the jugular, carotid, and aortic glomera.

Indeed, if given unmarked slides of these four glomera, I would be unable to distinguish one from the other upon a histologic basis.

Much further work remains to be done. It is planned to search for the pulmonary glomus in numerous other species, to apply special staining methods for the study of the vagus nerve terminals upon the epithelioid or "chief" cells, to verify the precise blood supply of the glomus in each species, and to undertake physiologic studies designed to gain information about the functional significance of this glomus.

Reasoning purely from histologic similarity to other, well known glomera, it is suggested that the pulmonary glomus may also be a chemoreceptor. If so, it would be the only glomus described to date bearing an intimate relationship to a vessel carrying mixed venous blood. As such it could serve as a monitor of changes in the $P O_2$ or $P CO_2$ of the blood prior to its entry into the lungs.

Experiments are designed and under way to explore the possibility of functional relationships between the pulmonary glomus and the medullary respiratory center as well as with mechanisms which regulate vasomotion and bronchial smooth muscle tone in the lung.

The term proposed for the glomus just described is the *Glomus pulmonale*.

It is a pleasure to acknowledge the assistance of the entire Freshman class (1959-1960) of the Medical School in making especially careful dissections of vagal branches to the pulmonary artery in the anatomy laboratory. I am particularly grateful to Dr. Bruce W. Armstrong of the Cardiopulmonary Laboratory at the University Hospital for his continued interest and valuable suggestions, but most of all for making available the facilities of his laboratories and the skilled assistance of his coworkers in the studies carried out on the living anesthetized dogs.

The Management of Laryngeal Stenosis

SAMUEL L. FOX, M.D.

BY DEFINITION, the term "laryngeal stenosis" simply means a narrowing of the laryngeal airway. The condition may be acute or chronic. In either case, there is a disturbance in the physiology of the larynx so that its principal functions (respiration and phonation) are affected adversely. The stenosis may be partial or complete, and may be due to intralaryngeal or extralaryngeal pathology.

Acute Stenosis of the Larynx

Even though the control of diphtheria has reduced very materially the incidence of laryngeal obstruction from inflammatory causes, the condition remains a common one due to the many forms of trauma to which the neck is exposed, to other inflammatory diseases affecting the larynx, to congenital malformations, to foreign bodies, and to exposure to the many forms of chemical irritation encountered in modern living and working conditions.

Some of the *inflammatory conditions of infectious origin* which may obstruct the larynx acutely are:

1. Diphtheria.
2. Acute primary laryngo-tracheitis.
3. Acute upper respiratory infections, with secondary invasion of the larynx, trachea, and bronchi.
4. Retropharyngeal abscess, periton-

sillar abscess, and cervical adenitis (extrinsic lesions).

5. Abscess of the larynx, secondary to upper respiratory infections, penetrating foreign bodies (fishbones especially), etc.

6. Spasmodic croup.

Some *inflammatory lesions of non-infectious origin* which cause acute stenosis of the larynx are:

1. Traumatic laryngitis, secondary to vocal abuse, thermal burns, inhalation of chemical irritants, lye burns, edema from exposure to inhalants to which the patient is allergic, allergic edema due to other extrinsic allergens, etc.

2. Trauma from operative procedures such as intubation, endoscopy, removal of foreign body, indwelling nasal feeding tube, etc.

3. Foreign bodies which puncture or penetrate the mucosa of the larynx (fishbones, etc.), etc.

Non-inflammatory lesions account for an ever-increasing incidence of acute stenosis of the larynx, and include:

1. Direct trauma, from auto and airplane accidents, gunshot wounds, suicidal attempts, etc.

2. Bilateral recurrent paralysis, as after thyroid surgery.

3. Angioneurotic edema (Quinke), laryngospasm, allergy to drugs, etc.

4. Foreign bodies (pharyngeal, laryngeal, and esophageal) which mechanically obstruct the airway.

The *symptoms and signs* of acute laryngeal obstruction are well known to

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every laryngologist. The cardinal tetralogy comprises:

1. Dyspnea.
2. Stridor.
3. Cyanosis.
4. Asphyxia.

Restlessness and inspiratory retraction of the suprasternal notch, the intercostal spaces and the epigastrium are concomitant indications of respiratory distress and anoxia.

The *treatment* of this condition must be prompt and vigorous to relieve effectively the laryngeal obstruction and restore normal respiration before anoxia occurs in vital organs or death ensues. Tracheotomy is often required and should always be performed before cyanosis becomes apparent. After the acute obstruction has been relieved, the tracheotomy can be closed at a later date.

One can very often avoid a tracheotomy by instituting the following measures before cyanosis is manifest:

1. Whenever the obstruction is due to infectious causes (such as laryngotracheitis) give the patient three minims of epinephrine subcutaneously and place him in an oxygen and vapor tent. This may be followed immediately by 0.5 ml. of epinephrine-in-oil intramuscularly for sustained effect. The prompt relief of the concomitant edema by the epinephrine very often will produce a dramatic effect and will suffice to get the patient past a critical period until medicinal and physical measures, antibiotics, etc., can effect amelioration of the process.

2. Immediately give a dose (at least 1 ml.) of trypsin or chyttrypsin intramuscularly, and repeat as necessary. Antihistamines and/or corticosteroids should also be employed as indicated, as adjuncts to the antibiotic therapy.

3. If a tracheotomy is still needed, place a bronchoscope *in situ* and perform

an orderly tracheotomy with the 'scope in place. This will provide an immediate airway and will render the trachea easy to locate, while at the same time deviating the need for hurry. In addition, on a number of occasions a foreign body has been found (and removed) during the passage of the bronchoscope, thus relieving the obstruction and eliminating the need for tracheotomy.

4. Where a tracheotomy has already been performed by another physician or surgeon, and sufficient time has elapsed for all inflammatory reaction in the larynx to subside, if difficulty is being encountered in de-cannulizing the patient, perform a direct laryngoscopy and bronchoscopy and very often a non-radiable foreign body will be found.

Chronic Stenosis of the Larynx

Whenever the narrowing of the glottis is partial and of long-standing, the term "chronic laryngeal stenosis" is applied; if the closure of the larynx is complete, it is termed an "atresia of the larynx." If stenosis occurs below the cricoid cartilage, it is a "tracheal stenosis." One commonly sees laryngeal stenosis and tracheal stenosis in association (laryngotracheal stenosis).

Usually these terms refer to the cicatricial type of stenosis. There are many cases of partial stenosis which never seek treatment and hence go unrecognized. The disease is almost always progressive and most patients ultimately will have sufficient interference with respiration or phonation to seek medical aid.

Chronic stenosis of the larynx may be of congenital origin or may be acquired as a result of trauma, infection, allergy, foreign bodies, tumors, improperly performed surgery, or neurologic lesions affecting the motility of the vocal cords.

Congenital lesions include webs, absence or flaccidity of tracheal or laryngeal cartilages, and the persistence of the fetal form of the larynx (curled and atonic epiglottis literally covering a narrowed glottis).

Of the *acquired lesions* trauma to the larynx and improperly performed tracheotomy are the two main causes of stenosis. The ever-increasing incidence of auto and airplane accidents, as well as of battle and industrial injuries, have led to a marked increase in the cases of serious trauma to the larynx. Whiplash injuries are often accompanied by a sharp blow of the larynx against the steering wheel, and marked edema, perichondritis, and stenosis may result, with or without fracture of the larynx.

The widespread use of intubation anesthesia and of gastric or intestinal intubation, especially by unskilled operators, has resulted in much unnecessary trauma to the larynx. The actual manipulation of passing these tubes is not usually the responsible agent for the resultant trauma, except in unskilled hands; but these tubes are allowed to remain in place so long that pressure against the larynx or trachea produces inflammatory reaction. This becomes aggravated if the patient is in the least sensitive to the rubber or plastic of which the tube is constructed.

Self-inflicted trauma (suicidal attempts), whether by the use of a knife, gun, or corrosive substance, often results in a permanent narrowing or obstruction of the laryngeal and tracheal airway. In some instances the larynx itself is not damaged but the nerve supply is severed or affected by cicatrix.

Improperly performed tracheotomies formerly accounted for at least 75% of the cases of chronic stenosis of the larynx.¹ This percentage has been re-

duced *relatively* (since many other forms of trauma have now been added to the list of causes), but unfortunately a very large percentage of stenosis cases still result from this inexcusable cause. Physicians, general surgeons, neurosurgeons, and others still do more emergency tracheotomies than do otolaryngologists, but we otolaryngologists should evaluate every tracheotomy as quickly as possible, and we should revise them promptly if they have been poorly done. To wait is disastrous.

In my experience three principal technical failures account for most of the ensuing stenosis:

1. Too many tracheotomies are still performed too high (above the second tracheal ring).

2. Inexperienced surgeons still remove an elliptical area of cartilage to facilitate changing the canula. This should never be done in any tracheotomy performed for temporary obstruction as it almost always leads to at least a partial obstruction.

3. The widespread and unnecessary dissection of the tissues of the neck around the trachea. This is common where the horizontal or "necklace" incision is employed, and stenosis often occurs in these cases.

Acute ulcerative infections of the larynx and trachea sometimes lead to cicatricial stenosis. Interestingly, neither tuberculosis nor syphilis (though often the cause of chronic ulcerative laryngitis) rarely result in stenosis. Foreign bodies which are not identified and removed become imbedded and ultimately lead to serious obstruction from the resultant inflammatory reaction which occurs. Even after removal of the foreign body, which is often difficult, it is necessary to relieve the stenosis surgically before the tracheotomy can be closed.

The most common tumor which results in stenosis is the papillomatosis seen in children. The management of this condition almost always requires a tracheotomy, the repeated surgical removal of recurrent papillomata, the use of X-ray therapy or etc., and most often the ultimate surgical correction of laryngeal (and tracheal) stenosis.

Neurologic lesions may be local or distant, and may result from toxic causes, trauma (surgical or accidental), tumors, or etc., anywhere along the pathway of the recurrent laryngeal nerves or their main nerve trunks or nuclei.

The Management of Chronic Laryngeal Stenosis

The management of chronic laryngeal stenosis and tracheal stenosis poses a serious surgical problem and often taxes the ingenuity of the laryngologist. The mere fact that so many different methods are advocated and so many different modalities are available would indicate that we have no certain method of cure. However, the principles of treatment are well established. There are three main objectives of any proposed course of treatment:

1. Permanent removal of the pathology.
2. Restoration of the normal functions (respiration and phonation).
3. Elimination of the tracheotomy.

It is not always possible to accomplish all of these aims, of course. But we should keep all of the objectives clearly in mind whenever we attempt to treat these cases.

The use of indwelling core molds made of rubber has long been advocated by Jackson,¹ especially in the early stages of cicatrization to prevent or relieve stenosis of the larynx. Tracheotomy was always necessary as the molds were solid. The open approach (laryngostomy) and

insertion of a skin graft over a sponge rubber stent was reported successfully by Figi.² Looper³ attempted to widen the glottis by inserting bone or cartilage grafts anteriorly after dividing the larynx in the midline (laryngostomy), but this was not very successful, either mechanically or functionally.

In 1950 and 1951 I encountered a series of cases of long standing laryngeal stenosis from several of the causes enumerated above. A number of unsuccessful attempts were made to dilate the stenosis and fix a rubber stent in place in several of the cases. In each instance the stents required much attention to keep them fixed in place and severe tissue reaction occurred in almost every instance so that it became necessary to remove the stent. The stenosis then promptly recurred.

At this time Dr. Fletcher Woodward introduced the idea of trying to make laryngeal core molds of acrylic resins. A set of O'Dwyer laryngeal intubation tubes were acquired and duplicated by a technician in a dental laboratory. Numerous trials were necessary before a satisfactory technique was developed and the proper acrylic resin was found. Obtaining the correct exterior shape was no problem; but making the molds hollow to serve the airway presented a technical obstacle. After repeated trials and failures it was found that the tubes could not be drilled vertically. Finally, a steel rod was imbedded in the negative casting before the melted acrylic plastic was poured, but this required a great deal of skill to accomplish. (The tubes shown in Fig. 1, have been prepared in this manner.) Small holes were then drilled horizontally across the diameter of the molds for the passage of fixation sutures.

Acrylic resin has proved to be the material of choice. No better material has

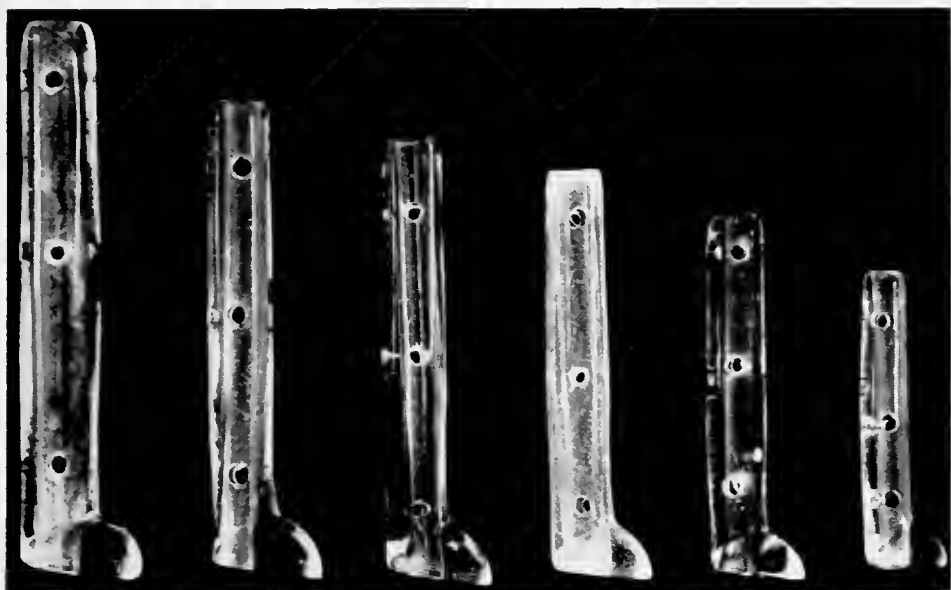


Fig. 1. Acrylic tubes.

as yet been found. The main virtues of acrylic are:

1. *Lack of reaction in tissues.* Acrylic resins are chemically essentially inert, reacting neither with weak acids nor alkalis. They are insoluble in aqueous solutions and do not ionize so that no electrolytic reactivity occurs in the tissues. They are easily cleaned with soap or detergents and water, and may be sterilized cold in any of the standard aqueous solutions. (Organic solvents tend to soften them and roughen their surface and hence should be avoided.) They are extremely well tolerated by human tissues, except in the rare instance of specific allergy. In these cases a different acrylic resin may be used.

2. *Ready-adaptability.* Acrylic stents may be made in almost any shape or size from molds made of the parts to be treated. Where necessary, these stents may be made in several parts and by a simple but careful fitting they will interlock by friction. The best example is the

T-shaped stent which has been used effectively for tracheal stenosis, where the short (fixation) limb protrudes through the tracheotomy and fits snugly into an opening in the wall of the longer (vertical) limb in the trachea.

3. *Physical characteristics.* These products can be highly polished and present an impervious external surface which affords little opportunity for foreign matter or secretions to stick to it. For the same reason, fibroblasts are apparently unable to engulf the material or attach themselves to it. This makes for easy removal later and encourages epithelialization wherever the acrylic is in contact with the tissues. In addition, when a properly fitting stent is used, the firmness of the product exerts a sufficient pressure against the tissues to retard granulations and inflammatory reaction.

The one major disadvantage to the use of acrylic resins, and it is a serious one, is the fact that the material is quite hard and totally inflexible. No adjustments or

changes can be made to the stent on the table, all such changes requiring the use of power drills and saws and requiring polishing before the molds can be inserted. If a mold does not fit properly, it is necessary to make a new one from a different pattern.

Case Reports

Case #1. A 14-year-old female was admitted to the hospital for "intractable asthma and status asthmaticus" on August 31, 1950. Patient had been totally deaf since the age of one year, following an attack of meningitis, and had never learned to talk. There were other congenital abnormalities: a torticollis, a marked strabismus and amblyopia of one eye, a considerable degree of mental deficiency. The child had been in a boarding school all of her life. Several years before the present illness she had suffered a very severe "trench mouth" infection which affected her throat and larynx, but no accurate diagnosis had been made of the illness at the time. Since then she had developed asthma which was growing progressively worse. The consultant allergist recognized that the respiratory obstruction was not of the asthmatic variety and asked me to see the patient in emergency consultation for laryngeal examination. Mirror examination revealed the cords to be free of pathology and free moving in both abduction and adduction. However, immediately beneath the cords the glottis appeared to be obstructed at least 70% by cicatrix. Tracheotomy was advised, but the mother refused to permit the operation. The next day the patient appeared in extremus and permission was granted for tracheotomy, which was carried out with immediate relief of dyspnea. At the same time direct laryngoscopy was performed and the diagnosis of laryngeal sub-glottic cicatricial stenosis was confirmed.

On July 18, 1952, a laryngostomy was performed and the cicatricial tissue was completely dissected out. An acrylic mold was inserted and fixed into position with one silver wire retention suture. The tube was allowed to remain in position until October 10, 1952, during which time the tracheotomy tube was discontinued and the stoma spontaneously practically closed. On December 2, 1952, it was necessary to reinsert the tube by laryngostomy because of recurrence of the symptoms. The patient got

along well and it was decided to let her wear the tube for six to nine months. However, the family left the State and I could not locate her for many months. On September 22, 1954, she suddenly appeared in my office still wearing the tube and in good physical condition. I cut the silver retention wire (which was still intact) and within a matter of minutes the patient coughed up the stent. She was followed very closely until March 23, 1955 and showed no evidence of further stenosis or dyspnea. In November of 1957 she suddenly developed an acute coronary and died on November 11, 1957. There had been no evidence of laryngeal obstruction or dyspnea, however.

Case #2. A 32-year-old female admitted to the hospital on May 30, 1951, after a serious auto accident. There were multiple fractures, including the skull and pelvis, and an emergency tracheotomy was performed in the Accident Room by a general surgical resident, employing a horizontal ("necklace") incision. Several months later I was asked to see the patient in consultation as repeated efforts to de-canulize her had been unsuccessful. She was hemiplegic (right side), aphonic, and unable to bear her own weight. Examination revealed total obliteration of the glottis apparently due to cicatrix. It was not possible to dilate the larynx manually as the glottis could not be entered with a bougie. A laryngostomy was performed on December 5, 1951, and marked cicatricial stenosis was found in both the glottic and sub-glottic areas, with flaccidity of the cartilaginous structures. A rubber core mold was inserted and fixed into position by silk cords through the tracheotomy stoma. This remained in place for only four weeks when it had to be removed because of severe local tissue reaction. An acrylic stent had been prepared in the interim and was substituted for the rubber mold. The patient wore this stent for 16 weeks and was able to get along without her tracheotomy tube. The acrylic mold was held in place by passing one silver retention wire suture through it. Upon removing the mold the laryngeal tissue immediately collapsed and the obstruction recurred, so that it was necessary to restore the tracheotomy stoma to use. It was felt that no further plastic repair should be undertaken in view of the patient's serious physical and mental impairments and in view of the fact that the laryngeal supporting tissues all seemed to be destroyed by the marked trauma it had suffered in the accident. This patient was subse-

quently seen by Dr. Louis Clerf, who corroborated the findings and also advised against further surgery. She is still wearing her tracheotomy tube.

Case #3. A three-year-old male was seen in consultation in July of 1952 because of inability to de-cannulize him after an apparent attack of laryngotracheitis several months previously had necessitated a tracheotomy. Direct laryngoscopy revealed the presence of a non-radiable foreign body (plastic coat button). After removal of the foreign body the laryngeal dyspnea persisted and re-examination revealed cicatricial stenosis of a marked degree. On August 5, 1952, a direct laryngostomy was performed and the cicatrix was excised. An acrylic mold was inserted and fixed into position with one silver wire retention suture. The tracheotomy tube was omitted and the stoma closed spontaneously. On October 20, 1952, the stent was removed and there has been no further recurrence of stenosis or dyspnea. (Last seen January, 1954.)

Case #4. A five-year-old male was admitted to the hospital on October 6, 1952, by transfer from a county hospital. He had been admitted to the county hospital on May 15, 1952, because of acute laryngeal obstruction diagnosed as secondary to acute tracheo-bronchitis. After the subsidence of all signs of infection numerous attempts to de-cannulize him were unsuccessful. Upon admission to hospital on October 6, 1952, X-ray examinations were made and revealed an open safety pin in the larynx. Subsequent review of the films taken at the county hospital revealed the presence of the same pin in all views but this had been interpreted mistakenly as a pin in the clothing. The pin was promptly removed by direct laryngoscopy and a cicatricial stenosis was immediately recognized. A laryngostomy was performed and an acrylic stent mold was inserted after excision of the cicatrix. The mold was worn for 11 weeks, when the retention suture spontaneously broke and the child coughed up the acrylic mold. There was no evidence of dyspnea or stenosis so that the child was observed carefully for more than one year, but it was not necessary to carry out any further operative procedure. In this instance the marked anti-granulation effect of the acrylic tube was striking, as the tube was inserted in the midst of considerable fresh reaction and an abundance of granulations. When the tube was ejected by the patient 11 weeks later there was no sign of granulations.

Case #5. A 21-year-old female student nurse was admitted to the hospital on March 3, 1953, after an auto accident in which several fractures were sustained (arm, ribs, leg) and there was a crushing fracture of the larynx. Dyspnea was increasing and a tracheotomy was contemplated. In view of the marked comminution of the laryngeal cartilages, it was decided to insert an acrylic stent mold instead of doing a tracheotomy. This was done by the laryngostomy approach and the thyroid cartilages were found to be badly comminuted and these were molded over the stent. The cricoid appeared intact. The dyspnea was immediately relieved and tracheotomy was avoided. The patient wore the stent for 16 weeks, after which it was removed without incident. There was no dyspnea, no visible stenosis, and a normal voice. There has been no recurrence.

Case #6. A four-year-old male had been treated for two years for multiple papillomata of the larynx by repeated laryngoscopic attempts at removing the papillomata. In July of 1953 it was necessary to perform a tracheotomy. On October 14, 1953, a laryngostomy was performed and all visible papillomata were removed. An acrylic stent was inserted and fixed into position with one silver wire retention suture. The mold was worn for five weeks and was spontaneously ejected by the patient after the retention suture "came unloose," according to the mother. The parents would not permit the re-insertion of the stent and it was suspected that they had manually untwisted the wire suture as the child had persistently resented the presence of the tube. The larynx appeared much cleaner and there had been much less recurrence during the period of the presence of the tube. The child was followed for about four more months, but has not been since.

Comments

It is not suggested that the use of the acrylic stent laryngeal molds be considered a panacea for chronic laryngeal and tracheal stenosis. In suitable cases these molds appear to be superior to all other molds previously available. In this series of cases (no recent ones have been included purposely) the external laryngostomy approach was employed in each instance. In most cases this is the de-

sirable approach as excision of the cicatrix is a first requisite for permanent restoration of the airway, in my opinion. Others feel it is sufficient to insert the stent via the glottis with the direct laryngoscope, thus stretching the cicatrix. The stent is then fixed into position by silk sutures brought out through the tracheotomy opening below and above through the nose. The advocates of this method feel that the acrylic mold will cause the cicatrix to fade without excision if it is not too broad or large. I have had little experience with this approach as I have preferred to excise the cicatrix under direct vision and fit the acrylic mold accurately in its place in each instance.

I have performed more than 15 such operations now with one known failure (Case 2) where there was marked destruction of the framework of the larynx and insufficient supporting structure to

maintain a patent larynx. The use of these stents in papillomatosis (as in Case 6) has been tried twice with fair results. In neither case could the stent be allowed to remain as long as desirable (perhaps a year to 18 months) and in both cases recurrences are suspected although definite improvement was visible as long as the stents were in place.

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Lead Excretion Following Oral dl Penicillamine With a Method for Comparing the Relative Effectiveness of Chelating Agents on the Excretion of Lead

ROBERT S. MOSSER, M.D. and SAMUEL P. BESSMAN, M.D.*

ALTHOUGH parenteral calcium ethylenediamine tetraacetate (Ca EDTA) is an effective^{1,2} chelating agent for the removal of lead from the patient during acute lead poisoning, no compound useful for oral administration has been discovered. The initial work with oral Ca EDTA³ was promising, till it was found that the increased urinary lead excretion seen with this substance was due to its accelerating effect upon the absorption of lead from the intestinal tract. In effect the oral Ca EDTA merely shifted lead excretion from the stool to the urine, since the unchelated EDTA is not absorbed from the gut.⁴

The efficacy of another oral chelating agent, 2 mercaptovaline, dl penicillamine,⁵ in enhancing the urinary excretion of copper prompted a comparative study of the effectiveness of oral penicillamine and parenteral Ca EDTA as a preliminary to more exhaustive distribution experiments. A report on lead excretion following penicillamine showed some enhancement of lead output, but no comparative data were presented.⁶

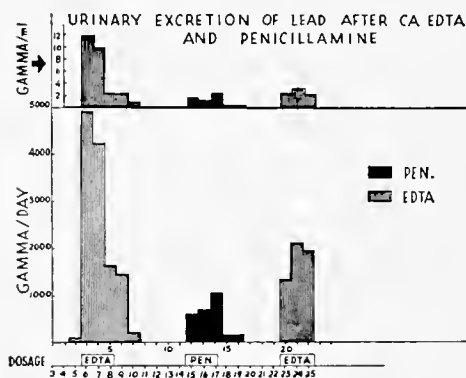
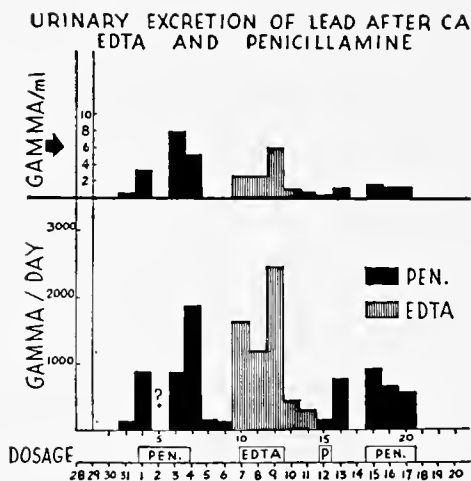
The comparative study of chelating

agents has been hampered by the lack of sufficient numbers of patients with heavy metal intoxication. The following procedure which apparently leads to an unequivocal choice between two agents, and which requires only two patients *who need not have similar degrees of metal intoxication* was devised. It permits fairly extensive screening of possible therapeutic materials without a large patient load.

Two patients, with history and blood and urine analyses characteristic of lead poisoning, were kept on a complete urine collection regimen for 18 days with rest periods of one day every sixth day. Each received three three day courses of therapy separated by three day intervals. The first patient was given dl penicillamine, 40 mg./kg. orally, in three divided doses for the first three day therapeutic period, one gram per day of Ca EDTA parenterally in two divided doses for the second therapeutic period, and repeat dl penicillamine for the third period. This dose of penicillamine is equivalent to the adult oral dose for copper and is approximately 1/25 of the chronically toxic dose to rats as reported by Wilson and Du Vigneud.⁷ If the optical activity is taken into consideration, this dose is 1/50 the toxic dose for rats since our material is the dl form and only the l form is

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toxic. This patient's lead excretion is shown in Figure 1.

The second patient was given the same type of treatment, but the course was started and ended with Ca EDTA, bracketing the penicillamine period. This patient's lead excretion is showed in Figure 2.

A line drawn between the average excretion of lead during the first period and the average during the third period should fall above the middle period average if the initial and the final agent were more effective, and below this mean if

the initial substance were less effective than the bracketed agent. It is clear from the data in both cases that oral dl penicillamine at the dosage given is far less effective in stimulating urinary lead excretion than parenteral Ca EDTA. Patient #1 had a blood level of .254 mg. % at the beginning of penicillamine therapy. One hour after 14 mg./kg. of penicillamine by mouth, the blood lead had risen to .350 mg. %. In three hours it was .287 mg. %, and in five hours it was .230 mg. %.

In regard to the dosage of penicillamine used from the standpoint of weight, it would appear that a great deal more of Ca EDTA was given than an amount that is considered to be a safe dosage of penicillamine. The efficiency of a chelating agent is not based upon its weight, but upon the number of molecules available to combine with the toxic metal. The molecular weight of penicillamine is 149 and the molecular weight of CaNa_2EDTA is 374. Therefore, the molecular weight of Ca EDTA is almost two and one half times as great as penicillamine. If the two compounds were equally efficient in chelating lead, then one milligram of penicillamine would stimulate the excretion of lead equal to that produced by 2.5 mg. of Ca EDTA. Our two patients weighed eight and 12 kilograms respectively. Each received 40 mg./kg. of penicillamine or Ca EDTA one gram per day. For the first patient, therefore, the dosage of penicillamine was 2.13 millimoles per day, and the dosage of EDTA was 2.67 millimoles per day. For the second patient, the dosage of penicillamine was 3.22 millimoles as compared to 2.67 millimoles of EDTA. Thus the two patients received higher or lower dosage of penicillamine than EDTA on a molar basis, and yet, the

results show consistently that penicillamine is inferior to EDTA.

An advantage of the double crossover type of evaluation is that it covers the possible conditions under which therapy might be enlisted. For example, if a patient had been treated with one agent and then switched to another it might be said that the "available" heavy metal had been removed, causing a poor showing by the second agent. This is obviated by the second experiment. In addition, the third phase of treatment, the readministration of the first agent, gives an opportunity to confirm that the evidence obtained would be valuable even if only two patients were used. This protocol can be used to evaluate not only different chelating compounds and routes of administration, but also different dosage levels of the same compound.

Penicillamine is a component of the penicillin molecule, and there is evidence that it may be formed as a degradation product in human beings.⁸ It is easily prepared from penicillin, however, merely by the addition of a heavy metal. In view of the fact that penicillin might so decompose in patients with lead poisoning, preliminary experiments were done which showed that parenteral penicillin had no effect on the urinary excretion of lead in patients with lead poisoning.

Case Reports

No. 1, L.L. A 26-month-old negro boy was admitted to University Hospital on 7/28/56 with a history of anorexia, vomiting, and insomnia which became more pronounced nine days prior to admission. He had a history of pica with ingestion of wall plaster for one month prior to admission. His growth and development were poor. He sat alone at one year, walked at 18 months, and did not phrase words at 26 months.

Examination showed a small, rather poorly nourished, and somewhat pale boy with inflammation of the tympanic membranes and

pharynx. He weighed 8.3 kg. on admission and gained 0.7 kg. during hospitalization. There was a hypochromic microcytic anemia. X-rays of long bones were suggestive of heavy metal poisoning. Blood lead was 0.254 mg. %. It fell to 0.087 mg. % during treatment.

No. 2, D.L. A three-and-one-half-year-old negro girl was admitted on 8/3/56 with a history of ingestion of dirt, paint flakes, plaster, and discarded building material for two months. Her growth, development, and general care were good.

Examination showed a small, fairly well-nourished negro girl with a discrete papular pruritic rash over the arms, legs, abdomen, and hands. The remainder of the examination was not remarkable. She weighed 12.3 kg., had a hemoglobin of 7.0 grams, microcytosis and hypochromia. X-rays of long bones showed a 2 + lead line. The patient's hospital course was uneventful except for development of cystitis (*E.coli*) during the last week of catheterization. Blood lead fell from 0.11 mg. % to 0.032 mg. % during treatment.

In summary, oral dl penicillamine has been compared to parenteral Ca EDTA in its efficiency in stimulating the urinary excretion of lead in patients with chronic lead intoxication and has been found to be significantly inferior to parenteral Ca EDTA. A protocol for the evaluation of chelating agent in pairs of patients is presented.

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OBSTETRICAL CASE REPORT

Prepared by JOHN W. ORMAND, JR., M.D.

THE PATIENT was a 22-year-old female, para 1-0-1-1, registered obstetrical clinic patient. The last normal menstrual period was July 20, 1959. The estimated date of confinement was April 27, 1960. The patient was followed in the outpatient clinic since the third month of gestation.

Her personal history, family history, and review of systems were not remarkable.

In July, 1957, she was delivered of a seven-pound full-term living male child. This pregnancy was entirely uncomplicated. A spontaneous miscarriage occurred in March, 1958, during the third month of gestation.

On physical examination, abnormalities were not noted. The uterine enlargement was consistent with the duration of the pregnancy. The patient's course during this pregnancy was benign with an 18 lb. weight gain.

The patient was admitted on April 20, with a history of spontaneous rupture of the membranes approximately 30 minutes prior to admission. There were no uterine contractions and fetal movements were present.

Physical examination on admission revealed a blood pressure of 110/70, pulse 70, respirations 16, and a temperature of 98.6°. The lungs were clear. On examination of the heart, no murmurs or arrhythmias were noted. The uterine fundus measured 28 cm. above the pubic

symphysis. The fetal heart rate was 140 per minute in the right lower quadrant of the abdomen. Estimated fetal weight was eight pounds.

Rectal examination revealed the cervix to be three centimeters dilated and 80% effaced. The umbilical cord was not palpable. The vertex was presenting in the right occiput transverse position at the level of the ischial spines.

Laboratory data included a hemoglobin of 13 Gm. Urinalysis was normal. Blood type was "O"-negative without antibodies. Serologic test for syphilis was negative. Vaginal nitrazine test was positive.

After eight hours labor had not commenced despite irregular mild uterine contractions. There was continual leakage of a moderate quantity of amniotic fluid. A roentgen pelvimetry was obtained, and showed an obstetrical conjugate of 12.5 cm., a transverse diameter of the inlet of 12.6 cm., an interspinous diameter of 10.5 cm., and an anteroposterior diameter of the outlet of 13 cm.

On the lateral view it was noted that the biparietal diameter of the fetal head had negotiated the pelvic inlet, and that the position was on a right occiput transverse. Because the cervix was of favorable dilatation, and the vertex at the ischial spines with the pelvis adequate, a Pitocin drip was begun. One thousand milliliters of five percent glucose and water was given intravenously with five

units of Pitocin added. Uterine contractions, fetal heart tones, and blood pressure were reported continuously during the Pitocin stimulation. The contractions were not permitted to last longer than 45-50 seconds and to be no closer than two minutes apart. If the above conditions could not be met, the Pitocin would have been discontinued. After cervical dilatation progressed to six centimeters and regular contractions had been established, the Pitocin infusion was discontinued. The patient progressed to full dilatation and was delivered of a full-term living male child over a central episiotomy with low outlet forceps. The infant weighed eight pounds, six ounces.

Comment

It was believed that ruptured membranes for an appreciable length of time with desultory uterine contractions and a partially dilated cervix constitutes a definite risk of intra-uterine infection. This usually takes the form of an amnionitis and is frequently a cause of neonatal pneumonia. For this reason, delivery should be promptly accomplished, if feasible. Fortunately, the feto-pelvic relationships were favorable for a Pitocin induction of labor. If the uterus had not been irritable, and if the cervix was long and closed, the likelihood of infection would have been greatly decreased and active intervention would not have been necessary.

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The New Cover

WITH this edition of the BULLETIN a new cover has been adopted, based on the work of Mr. Thomas Stevenson of the Department of Art of the School of Medicine.

The Editorial Board wishes to acknowledge with thanks Mr. Stevenson's contribution to the improvement of the BULLETIN.

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Editorial

Research is Everybody's Business

ELSEWHERE in the BULLETIN is found a brief summary of just about all of the available clinical and pathological information concerning a disease which, in man, carries a high mortality and an alarming morbidity.

As the author prepared his thesis, it became obvious that the chief gaps in the knowledge of this disorder arose both from a paucity of careful clinical studies as well as a lack of adequate virologic and pathologic observations. While the public press has given ample coverage to epidemics of Eastern Equine Encephalomyelitis in man, no real progress has been made in the understanding of this disease. But little appears in the medical press concerning its epidemiology, the development of the clinical syndrome, and above all, the disease process as it involves the brain. It is obvious that the disorder is more prevalent than the accumulated scientific data would suggest. While a reasonable vector is suggested, this has not been proved. The reason for a lack of knowledge does not lie in the laboratory, for indeed, pathologists and virologists have been most curious about this disorder and are anxious to study it.

The type of research necessary to properly study this disorder is peculiar. A protocol for this study must be developed to include the clinician or general practitioner literally as chief investigator. This "front-line" investigator, the doctor who is called first to treat the sick, now becomes the vital link in the study. It is only through his awareness of the problem; through his cooperation with the laboratory investigator; and through his continuing activity that the disease can ever be adequately studied. It is obvious that research relating to this disorder should not be approached alone via laboratory animals if an understanding of its effects in man is the primary objective.

Research thus becomes an integral part of general practice and of many of the varied specialties. In such diseases as Eastern Equine Encephalomyelitis, progress in understanding and therapy will come not alone from laboratory investi-

gation but will involve essential data and material acquired as a part of the everyday practice of medicine and surgery. The generalist or specialist, therefore, becomes an important member of the research team. His interest and his awareness of the deficiencies in the knowledge of diseases such as Eastern Equine Encephalomyelitis and his continued cooperation will provide the material necessary to those in the laboratory whose duty it is to unravel the mystery. Research, therefore, *is* everybody's business.

Dr. Norman T. Kirk, Class of 1910

DURING the more than a century and a half of service to the community, the School of Medicine has produced a number of outstanding medical leaders. Some of these physicians have distinguished themselves in the field of original research; others in the capacity of great teachers, while others have excelled in the compassionate application of medical science to the understanding and care of the sick. A few have elected unusual specialties. One of these was Norman T. Kirk of the Class of 1910.

Dr. Kirk made military medicine his career, perhaps in some way stimulated by the military tradition of his own family and perhaps through the achievements of a then contemporary former University professor, Dr. William T. Hammond, who had served with distinction as Surgeon General during the War between the States. It is not known exactly what motivated Kirk in his decision to become a military doctor, but his application to this challenge was intense.

Not only did he become a good Army doctor, but he became known throughout the medical profession as an expert clinical surgeon, specializing in techniques of amputation, a branch of surgery not only important to the military but to civilian physicians as well. In this particular branch Kirk achieved considerable distinction and was the author of numerous monographs and books on the subject. As an administrator, his Army record speaks of a continuing increasing responsibility ending in the greatest challenge ever placed before a physician, that of organizing a world-wide medical service in the greatest war man has ever fought.

To this challenge, he was equal. As would any good executive, he immediately surrounded himself by a senate of competent specialists in whom he placed the necessary responsibility and to whom he delegated the necessary authority. While not too many of the thousands of physicians who served under his command knew him personally, the guidance and the planning he controlled descended in an orderly way. Within the limits of the contingencies imposed, the nation emerged from the war with a very enviable record, unmatched in the annals of military medicine.

Honored abroad and at home, the passing of Norman T. Kirk but again emphasizes the contribution of this distinguished Alumnus who has set the pace and chartered the direction of military medicine in this age of rapid communication and diminishing distance.

Drug-Induced Anaphylactic Reactions in Clinical Medicine

Latent dangers associated with the administration of drugs are emphasized

HUBERT R. WHITE, JR., M.D.

ANAPHYLACTIC REACTIONS in clinical medicine are, in the majority of instances, associated with the administration of drugs; the minority are encountered as complications of desensitization procedures, insect stings, inhalation of antigen, and rupture of a hydatid cyst.¹ The immediate, severe reaction which may follow administration of certain drugs constitutes one of the most frightening and unexpected medical emergencies which a physician may encounter; only immediate recognition of the nature of the reaction with prompt and proper management offer any chance for the patient's survival.²

Terminology

These reactions have been variously termed anaphylactic shock, allergic shock, anaphylactic reaction, anaphylactoid reaction, and constitutional reaction, but there seems to be no agreement in the literature as to which is most accurate, most authors tending to use them more or less synonymously. However, the case reports of reactions of the immediate, severe variety which were reviewed in the preparation of this paper do exhibit a clinical pattern of sufficient uniformity to fail to justify

this confusion of terminology. The original term "anaphylaxis" is of Greek origin and means "without protection;" it was originally coined to describe the phenomenon observed in sensitized experimental animals following challenge with the sensitizing antigen. Although the response to the "shocking" dose of antigen shows species variation, there tends to be a common pattern consisting of hypotension, hypothermia, hypocoagulability, and leukopenia.²

In considering cases reported in the literature during the past ten years only those reactions reported to have occurred within 15 minutes following injection or 30 minutes after ingestion of the offending drug, and associated with evidence of peripheral vascular collapse, were considered as constituting an anaphylactic reaction. This limitation was imposed because only the immediate reactions are of sufficient severity to present a life-threatening medical emergency. In the vast majority of case histories reviewed, such an immediate onset was the rule. The major aim of this paper is to attempt to provide a systematic, physiological approach to the management of this critical situation, since reactions to the uncommon offenders are too infrequent to make preliminary sensitivity testing practical; consequently it is the anaphylactic reactions to these agents which are most unexpected.

This work was performed during a 12-week elective special course in internal medicine during the author's senior year. The work was completed during the summer of 1959.

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Classification of Anaphylactogenic Drugs

Zussman is of the opinion that penicillin has replaced foreign animal serum as the commonest cause of anaphylactic reactions at the present time and estimates the antibiotic to be responsible for 1,000 deaths annually.² Evans states that penicillin has caused more side reactions than any other drug; he indicates that 10% of the nation's population are potential candidates for hypersensitivity reactions to the first and most commonly used antibiotic.³ An indication of the incidence of this problem may be obtained from a consideration of the statistics compiled in a nation-wide survey of antibiotic reactions occurring during the period from 1954 through 1956. Two thousand, nine hundred ninety-five severe antibiotic reactions were discovered in a survey of 29% of the nation's general hospital beds, 80% of which were caused by penicillin. There were 793 anaphylactic reactions to penicillin; 63 of these reactions proved fatal. A breakdown of these anaphylactic reactions according to the routes of penicillin administration is as follows:⁴

<i>Route of Administration:</i>	<i>No. of cases</i>
Parenteral penicillin	733
Oral penicillin	49
Aerosol penicillin	4
Penicillin ointment	1
Penicillin in nose drops	1
Penicillin skin test	1

These statistics clearly indicate that most anaphylactic reactions to penicillin have followed parenteral administration, particularly when procaine penicillin was used.⁵ Certain preparations, such as penethamate hydrochloride (Neopenil), reportedly are associated with a greater incidence of sensitization, while such preparations as penicillin G seem to be associated with a lesser incidence.³ The

above statistics reveal a significant number of anaphylactic reactions following oral penicillin therapy. A survey of the recent English literature by Maganzini revealed, in addition to his two reported cases, nine reports of anaphylactic reactions to oral penicillin, with one death.⁶ It is apparent that penicillin anaphylaxis is a risk even when the oral route is used, contrary to previous beliefs. Birk and Mason each reported an anaphylactic reaction to oral penicillin, occurring in patients with previous contact with this antibiotic, in which symptoms did not appear until 30 minutes after ingestion of the drug.^{5, 7} Due to the frequency with which this catastrophic reaction occurs in association with penicillin therapy, preliminary sensitivity tests are necessary in an attempt to minimize the occurrence of this tragedy.

Other antibiotics have been responsible for the production of anaphylactic shock, fortunately with far less frequency than penicillin. Of the 809 serious antibiotic reactions reported by the Food and Drug Administration, 16 were caused by streptomycin, dihydrostreptomycin, chloramphenicol, and tetracycline, with 2 fatalities.⁴ Bower reported an anaphylactic death following intramuscular injection of erythromycin in a two-year-old female with a history of a previous urticarial reaction to penicillin.⁸ In this patient there apparently was no previous contact with erythromycin; a similar apparent lack of opportunity for sensitization was noted by Rothenberg in reporting an anaphylactic reaction to vancomycin in a patient known to be hypersensitive to sulfonamides and who subsequently developed an allergy to novobiocin.⁹ These reports at least suggest that a patient with a known antibiotic sensitivity has a greater pro-

pensity for becoming sensitized to another antibacterial agent than a patient who gives no evidence of such an allergic tendency. It seems logical that all such therapy should be administered with additional caution under such circumstances.

Foreign animal serum, usually in the form of tetanus or diphtheria antitoxin, was the major anaphylactic offender of previous years, but case reports of serum anaphylaxis are lacking in the recent English literature. This apparent lack of occurrence may represent either the effectiveness of prophylactic skin testing, which is almost universally employed, or simply failure to report these reactions. A significant contribution toward diminution of serum anaphylaxis has undoubtedly been made by the widespread use of toxoid for immunization; consequently, even though many individuals are sensitive to horse serum, they rarely require antiserum as a protective measure. In any case, the apparent decrease in incidence of anaphylactic reactions to foreign animal serum must not lead to the impression that such precautions are no longer required in serum therapy.

Anaphylactic reactions to salicylates are excellent examples of ability of an orally administered drug for producing allergic shock. This group of drugs is among the most common and dangerous causes of drug reactions.¹⁰ Aspirin is a notable cause of the most violent systemic reactions in asthmatics sensitive to it.² Such reactions tend to occur about 20 minutes after ingestion of the aspirin and usually manifest as a severe asthmatic attack which may prove rapidly fatal.¹ The closely related substances sodium salicylate and acetylsalicylic acid have a well-recognized propensity for provok-

ing acute anaphylactic reactions. Harvey and Solomon reported a case of anaphylactic shock occurring in a tuberculous patient with a history of previous, less severe reactions to streptomycin and para-aminosalicylic acid (PAS). Fifteen minutes after ingestion of a test dose of 1.5 Gm. of PAS the patient manifested anaphylactic symptoms. In their review of the literature, the authors were unable to find a report of a fatal anaphylactic reaction to PAS. It is not known whether cross-sensitivity exists between PAS and acetylsalicylic acid.¹¹

Although the most common reactions to local anesthetics are of the toxic variety, allergic reactions do occur and are occasionally of an anaphylactic nature.¹² Crip and Ribeiro mentioned previous reports of fatal reactions to cocaine, tetracaine, and procaine and reported three of their own cases of anaphylactic death attributable to procaine. These reactions followed topical mucosal application, intercostal nerve block, and gingival infiltration.¹³ Morrissett reported the first fatal case of lidocaine (Xylocaine) anaphylaxis, which followed gingival infiltration of this agent in a patient with a history of sulfonamide sensitivity.¹⁴ A fatal anaphylactic reaction to benzocaine contained in a throat lozenge was recently written up by Hesch. This author pointed out that reactions to local anesthetics most commonly follow topical application of the agent on mucous membranes, as a result of surprisingly rapid absorption which is capable of almost equaling the plasma levels obtained by rapid intravenous injection. The common basic structures shared by local anesthetics may result in cross-reactions.¹²

Anaphylactic reactions have been reported as rare occurrences with only

three hormones used in therapeutics. Anaphylactic shock occurring as a complication of insulin coma therapy was reported in a patient who subsequently gave a positive response to an intradermal test with dilute insulin and who was also demonstrated to have circulating antibodies to insulin.¹⁵ Fortunately, anaphylactic reactions to insulin appear to be exceedingly rare in diabetic management. Several anaphylactic reactions to ACTH were noted in the literature by Eisalo, Leskinen, and Oka; only two of these reactions proved fatal. These authors reported a fatal reaction occurring in an asthmatic patient following intramuscular injection of corticotropin. It would seem that there is little justification for the therapeutic use of this trophic hormone when an identical effect can be achieved with adrenal corticosteroids, without the danger of anaphylactic reaction.¹⁶ Two maternal deaths resulting from Pitocin anaphylaxis were recently reviewed by the Wisconsin Maternal Mortality Study Committee; however, such a reaction to the oxytocic factor appears to be a rarity.¹⁷

Anaphylactic shock complicating the use of therapeutic enzymes is also quite rare; it has been reported to follow administration of penicillinase (Nentra-pen) and chymotrypsin (Chymar). Penicillinase anaphylaxis was first reported by Hyman in a patient with an urticarial penicillin reaction; no previous contact with this enzyme could be established. In regards to the antigenicity of this compound it is of interest that antibody formation following penicillinase injection has been demonstrated in experimental animals, although a comparable response in humans remains to be shown.¹⁸ Caputi cites a case of anaphylactic shock which followed intramuscular administration of penicillinase in a child who presented

with a penicillin-induced allergic dermatitis. To explain the presence of hypersensitivity in a patient with apparently no previous contact with this enzyme, the author postulated that sensitization resulted from the production of penicillinase by certain bacterial members of the normal flora, notably staphylococci and *Escherichia coli*. Apparently endogenous penicillinase is not manufactured in quantities sufficient to produce allergic manifestations in the host.¹⁹ Chymotrypsin has also been incriminated in an anaphylactic reaction. This occurred following a course of injections of this proteolytic enzyme in a patient being treated for epididymitis; however, no case of anaphylactic severity had been reported previously.²⁰

Isolated case reports of anaphylactic reactions resulting from the administration of various other pharmacologic agents are in the literature. Although extremely rare as causative agents, the ability of these drugs to produce such devastating reactions must be remembered when their use is contemplated.

Organic iodide contrast media employed in intravenous urography produce severe reactions in about one of every 500 patients, according to a recent survey by Nesbit. This urologist collected 136 cases of anaphylactic shock associated with injection of Hypaque, Miokon, and Renografin. The only fatality followed the administration of a diagnostic dose of Hypaque to a patient who failed to react to a preliminary 1 cc. test dose.²¹ Payne, Morse, and Raynes published a case report of an anaphylactic death which followed the intravenous injection of a test dose of 50% Miokon.²² Several other diagnostic agents have also been responsible for an occasional anaphylactic reaction. Sodium dehydrocholate (Decholin) produced immediate ana-

phylactic manifestations during a circulation time determination in a patient without a history of previous allergy or prior exposure to this drug. At the time this case was being written up, Coggins, Skinner, and Burrell were able to find only one additional case in the literature.²³ Stecher recently reported an anaphylactic reaction with fatal laryngeal edema which complicated the use of bromsulfalein in an asthmatic patient who had received this drug previously. This was the second reported anaphylactic death attributable to bromsulfalein.²⁴ MacCuish reported a fatal reaction to Congo Red and in his review of the literature found reports of an additional six severe reactions with two deaths. This author was of the opinion that, even though the patient had no history of receiving Congo Red previously, the reaction was of an allergic nature, since bronchospasm was the principal clinical feature. In an attempt to explain this apparent discrepancy, the investigator postulated that combination of the azo-dye with serum protein produced an azo-protein responsible for sensitization.²⁵

Various vitamins of the B complex have on rare occasions been responsible for anaphylactic reactions. Chitwood and Moore mentioned reports of anaphylactic shock due to thiamine, nicotinic acid, and folic acid and reported a case of an anaphylactic reaction to a vitamin B complex preparation administered intravenously. This patient had received intramuscular injections of this vitamin previously.²⁶

Bernstein reported the eighth anaphylactic reaction to heparin, the first case report appearing in the literature in 1946. His case involved an asthmatic patient who subsequently gave a positive response to intradermal sensitivity test-

ing with dilute heparin; the presence of circulating antibodies to this anticoagulant was also demonstrated by passive transfer of sensitivity to the skin of two volunteers. The author's immunologic studies revealed that the hypersensitivity was directed toward the heparin polysaccharide rather than animal protein contaminants from the parent beef or pork.²⁷

Severe but non-fatal allergic reactions have been reported to occur rarely in association with the injection of internal hemorrhoids with quinine urea hydrochloride as a sclerosing agent. Berkowitz recently reported a fatal anaphylactic reaction complicating hemorrhoidal treatment with a newer sclerosing agent, sodium psyllate.²⁸

Table 1. Summary of the Anaphylactogenic Drugs

- I. *Antibiotics*
 1. Penicillin
 2. Streptomycin
 3. Erythromycin
 4. Tetracycline
 5. Chloramphenicol
 6. Vancomycin
- II. *Antitoxins*: foreign serum, predominately of equine origin
- III. *Salicylates*
 1. Acetylsalicylic acid
 2. Para-aminosalicylic acid
 3. Sodium salicylate
- IV. *Local Anesthetics*
 1. Cocaine
 2. Tetracaine
 3. Procaine
 4. Lidocaine
 5. Benzocaine
- V. *Hormones*
 1. ACTH
 2. Pitocin
 3. Insulin
- VI. *Therapeutic enzymes*
 1. Penicillinase
 2. Chymotrypsin
- VII. *Diagnostic drugs*
 1. Organic iodide contrast media
 2. Sodium dehydrocholate
 3. Bromsulfalein
 4. Congo Red

VIII. *Miscellaneous agents*

1. Vitamins of B complex
2. Heparin
3. Sclerosing Solutions

Clinical Features of the Anaphylactic Reaction

The onset of symptoms of this reaction is usually related temporally to the route of administration of the anaphylactogenic drug, intravenous administration generally tending to provoke a reaction within seconds, while, with the oral route, the development of clinical manifestations is likely to be delayed for 20 to 30 minutes. In an extremely hypersensitive individual, however, symptoms may occur immediately upon ingestion of the drug. The severity of the reaction appears to parallel the rapidity with which symptoms develop; consequently, the immediate reactions carry the hazard of sudden cardiorespiratory arrest. In fact, death may occur so precipitously that no symptoms other than collapse are noticeable.¹⁰

In reactions which are not instantaneously fatal, the usual pattern consists of dyspnea, cyanosis, shock, and coma. Bronchospasm, as manifested by audible wheezing, was apparent as the cause of dyspnea in many of the case reports reviewed, but in some instances airway obstruction was clinically evident at the laryngeal level; inspiratory stridor indicating the presence of laryngeal spasm and/or edema.¹² As a rule there is no time available for manometric determinations of blood pressure; however, the presence of peripheral vascular collapse may be inferred from the typical clinical signs, including weak, rapid pulse and cold, moist skin. Pulmonary edema may develop as a consequence of prolonged airway obstruction, unless circulatory arrest supervenes. Generalized convul-

sive activity may result from cerebral hypoxia.

In patients in whom the development of peripheral vascular collapse is somewhat delayed, allergic symptoms such as angioneurotic edema, particularly in the periorbital and circumoral regions, rhinorrhea, irritative cough, diffuse urticarial or pruritic erythematous eruptions may be observed transiently.^{9, 10, 20} In these reactions with delayed onset of shock, which, as previously mentioned, tend to be associated with an orally administered anaphylactogenic agent, palatal, palmar, and genital pruritis may be premonitory symptoms; these patients may also manifest vomiting and diarrhea.^{5, 11}

Patients surviving the initial phase of an anaphylactic reaction may develop precordial pain characteristic of acute coronary insufficiency.²⁰ Bernreiter made electrocardiographic observations on a patient during the subsiding phase of a penicillin-induced anaphylactic reaction. The initial tracing, taken while the patient was in profound shock, revealed atrial fibrillation, intraventricular conduction disturbance, severe coronary insufficiency, and marked injury to the posterior wall of the left ventricle. Subsequent electrocardiograms revealed disappearance of these abnormalities. These findings were interpreted as indicating the possibility of direct myocardial and coronary participation in the anaphylactic process; this was postulated to be the mechanism of sudden cardiac asystole and death in some anaphylactic reactions.³⁰ Rosenfeld, Silverblatt, and Grishman also advocate direct anaphylactic involvement of the myocardium and coronary circulation. Reference was made by these investigators to the production of recordable arrhythmias by the addition of antigen to a bath containing

auricular muscle from a sensitized guinea pig. A possible contributing role of cardiac insufficiency in the development of systemic hypotension was considered. These authors also reported their electrocardiographic findings in two asthmatic patients who experienced anaphylactic reactions. Their first patient manifested precordial pain associated with the electrocardiographic pattern of acute coronary insufficiency, both of which disappeared coincident with clinical improvement. Acute cor pulmonale was noted electrocardiographically in their second patient; in this instance pulmonary vasoconstriction was postulated to be the predominant feature. Such an electrocardiographic pattern has been previously described in asthmatic patients during anaphylactic reactions.²⁹ In view of the capillary alterations occurring in anaphylaxis, however, it would seem reasonable to ascribe a peripheral origin to the coronary insufficiency, since cases exhibiting evidence of reduced coronary blood flow in the absence of systemic hypotension have not been reported.

Drug-induced anaphylactic shock may present as a diagnostic problem when it is encountered in a comatose patient who cannot assist the physician by providing a history. As in the two patients reported by Maganzini, this situation is most likely to be associated with orally-administered anaphylactogenic agents, because the resultant reaction is apt to occur without the physician at hand to witness it.⁶ The two conditions which are most often confused with an anaphylactic reaction are syncope and a toxic reaction to an injected or ingested drug. Waldblott recognized syncope by the presence of facial pallor and bradycardia as contrasted with the facial flushing and tachycardia of anaphylaxis.¹⁹ The case

reports, however, which were reviewed in the preparation of this paper make it evident that differentiation of these two conditions on this basis is not reliable, since both bradycardia and pallor may accompany a severe anaphylactic reaction. The toxic effect of a drug is apt to be associated with clinical features which reflect its major pharmacologic action rather than symptoms characteristic of an allergic process.

Immunologic Mechanism of the Anaphylactic Reaction

In the literature only minimal consideration is devoted to the underlying mechanism of human anaphylactic shock, since the urgency of the situation is not conducive to academic observations. Much of the work on the mechanism of this reaction has been carried out in laboratory animals, however, and in an attempt to elucidate the fundamentals of the anaphylactic process in man, it is necessary to extrapolate this experimental information to the human counterpart. In an extensive and excellent review of the experimental literature dealing with this problem, Burdon assigns both the cellular and the humoral theories their proper place in anaphylaxis. This phenomenon is apparently based upon the fixation of antibodies to cells, thereby creating a hypersensitive state. The factors responsible for this fixation remain a mystery. Circulating antibodies can also be demonstrated in the anaphylactic state, and undoubtedly contribute to its production, but the exact nature of this role remains a matter of dispute. Some of the confusion concerning the function of circulating antibodies might be eliminated by considering the observation that there are several types of antibodies with various functions. Reagins are thought to be the antibodies which have an affinity for the cells, this

process of fixation being responsible for the primary reactions. Certain other antibodies have been noted to possess a specific protective action and have been appropriately designated as "blocking" antibodies.

Experimental evidence indicates that antigen-antibody combination in the serum produces a toxic product and apparently incorporates complement into the formation of a proteolytic enzyme. This complex also contains a fraction which exhibits a histamine-like effect on contact with smooth muscle. Administration of an allergen to an extremely sensitive subject theoretically produces the observed anaphylactic reaction as a result of combination of antigen with antibody of both the fixed and circulating type. This circulating antibody seems to be of a type which is peculiar to individuals with an allergic predisposition, because combination with antigen results in the formation of a proteolytic enzyme capable of cellular digestion which will release histamine-like substances. Physiologically active substances other than histamine have been shown to contribute to the alterations which characterize anaphylaxis. The decreased coagulability which has been observed experimentally has been attributed to endogenous heparin.²¹

Becker postulates that antigen-antibody combination activates an enzyme system which is responsible for cellular injury, since one of the four fractions of serum complement has been shown to be a proteolytic enzyme while the remaining three fractions are thought to be proteases. Thus the fall in complement level demonstrable in anaphylaxis possibly represents its participation in enzymatic activity resulting in cellular injury.²² This author also suggests that serotonin may be one of the chemical mediators

of anaphylaxis, but the role of this substance in the human reaction cannot be assessed on the basis of animal work because Sanyal and West demonstrated that the participation of serotonin in anaphylaxis was subject to a great deal of species variation.²³

Pathophysiology

If the patient survives long enough for their development, tissue lesions appear to be centered in vascular endothelium and smooth muscle.²⁴ A generalized spasm of smooth muscle and increase in capillary permeability constitute the major pathophysiologic changes of human anaphylactic shock.²⁵ As was apparent in many of the case reports reviewed, this smooth muscle spasm is most evident clinically in the bronchial tree and creates airway obstruction which rapidly results in hypoxia. The latter may be responsible for coma, convulsions, and cardiac arrest and in itself may contribute substantially to peripheral vascular collapse. Histamine produces prearteriolar dilatation and increase in capillary permeability resulting in systemic hypotension and reduction in tissue blood flow.²⁶ Permeability changes in the capillary endothelium may be of such a degree as to result in marked diminution in plasma volume; consequently, plasma expanders may be required for the correction of hypotension.⁶

An explanation for the absence of urticaria and angioneurotic edema in patients who rapidly become hypotensive was provided by the Scandinavian writers Eisalo, Leskinen, and Oka. These authors pointed out that, in the presence of hypotension with its attendant diminution in capillary perfusion pressure, these transudative phenomena, which result from increased capillary permeability, do not develop.¹⁶

Emergency Management

An anaphylactic reaction constitutes a medical emergency in which the patient's chances for survival depend upon the immediate and systematic institution of proper therapy. In such an emergency situation no time is available for the gathering of necessary therapeutic tools, consequently these materials must be accessible at all times. Prickman and Lofgren have assembled anaphylactic sets which are constantly available in the Mayo Clinics and Rochester Hospitals. For information about the contents of these well-stocked emergency kits the reader is referred to the article by these authors.³⁵

Except when a reaction follows intravenous administration or intramuscular injection in the deltoid or gluteal regions, the placing of a tourniquet proximal to the injection site may delay further absorption.¹ Unfortunately, this maneuver will be of assistance in only the few instances in which the injection of the offending agent has been made subcutaneously at a distal location on an extremity, or with the rare anaphylactic reaction complicating cutaneous sensitivity testing.

The patient's condition must be rapidly assessed to determine the proper method of resuscitation. The average reaction is accompanied by rapid development of peripheral vascular collapse; however, no time can be spared for manometric verification of hypotension, this must be decided on clinical grounds alone. Having established the presence of shock, all anti-anaphylactic therapy should be administered intravenously, except, of course, when circulatory arrest rapidly follows, in which case a different approach is indicated.

The first weapon in the treatment of anaphylactic shock should always be

epinephrine 1:1000, 0.5 cc. intravenously.³ In reactions which follow intramuscular or subcutaneous injection of an anaphylactogenic agent an additional 0.3 cc. of aqueous epinephrine should be infiltrated at the injection site in a further attempt to delay absorption of the offending drug. The intravenous epinephrine should be followed immediately by diphenhydramine (Benadryl) 50 mg. (in an adult) by the same route. The value of antihistaminics in the treatment of these reactions has been questioned by many; however, the patient should be given the benefit of the doubt. The action of the corticosteroids appears to be too slow in onset to be life-saving in the anaphylactic situation; in spite of this hydrocortisone sodium succinate in 100 mg. doses may prove beneficial in some cases.¹ In anaphylactic reactions to penicillin the enzyme penicillinase (Nentrapen) may be administered in doses of 800,000 units if the patient survives the immediate reaction. The limitations of this agent in the anaphylactic situation, however, are recognized by its manufacturer. There is usually insufficient time for its action to become manifest before the patient succumbs.^{3, 36} As previously indicated, this enzyme itself is capable of inducing an anaphylactic response.^{18, 19}

One of the immediate considerations in the management of this reaction is to combat anoxia, the existence of which may contribute significantly to vascular collapse, as well as lead to rapid demise. Oxygen should be administered by the most direct route available, preferably by mask. If bronchospasm does not respond promptly to epinephrine the slow intravenous administration of aminophylline, in a dose of 250-500 mg., may be effective. This bronchodilator, however, is contraindicated in the absence

of bronchospasm because of its hypotensive action. Airway obstruction at the laryngeal level may necessitate a tracheotomy.¹

The immediate reaction may be survived but shock may persist, even though the patient was placed in Trendelenburg position the moment vascular collapse became apparent. Although epinephrine will antagonize the bronchoconstrictor action of histamine, it cannot be considered an antagonist of histamine in the cardiovascular system, since the constrictor effect of histamine on cutaneous vessels is more than counterbalanced by the muscular vasodilatation it produces.³⁷ Consequently, it may be necessary to employ a vasopressor infusion, which should be administered, if possible, with the same needle as was used to inject the initial medication. As previously indicated, the hypotension may prove refractory to vasopressors, particularly in patients who have developed urticaria and angioneurotic edema, and plasma expanders may be needed to correct the hypovolemia.⁶

In the severe anaphylactic reaction which produces sudden cardiorespiratory arrest, the approach must be directed towards prompt restoration of circulation and oxygenation of blood; it is obviously useless to administer anti-anaphylactic agents intravenously in the absence of circulation. Consequently, one of the first determinations to be made in the severe reaction concerns recognition of cardiac standstill; this may be rapidly detected by such simple observations as the absence of audible heart sounds, the absence of aortic pulsation on abdominal palpation, and ophthalmoscopic detection of segmentation in retinal venous blood.

Certain criteria, as outlined by Southworth, must be fulfilled before cardiorespiratory resuscitation is attempted.

Fortunately, the very nature of the anaphylactic reaction permits most of these requirements to be met, provided that the reaction occurs in a hospital, where proper facilities and personnel are available to undertake such radical measures. Indeed, most patients who suffer an anaphylactic reaction in a hospital have the fundamental health to justify restoration to life, are not hypotensive prior to the onset of the reaction and thus do not have pre-existing cerebral ischemia, and cardiac massage with artificial respiration can be instituted within four minutes after cessation of cardiac action. Prior to the performance of a thoracotomy the physician should pound on the patient's precordium several times, since this simple maneuver is sometimes effective in reversing cardiac asystole. The physician, however, who undertakes cardiac massage must have had some training in this technique and an assistant must be available to provide pulmonary ventilation with a plastic resuscitator until more adequate facilities are at hand.³⁴

Prophylactic Measures

Preliminary sensitivity testing is undoubtedly of value in preventing anaphylactic reactions in patients who have no known drug allergy, but the use of this procedure is only practical with the common offenders, even though cutaneous hypersensitivity has been demonstrated in patients who have experienced an anaphylactic reaction to one of the less common anaphylactogenic agents. Only under special circumstances does it become worthwhile to use sensitivity testing prior to administration of a drug which on rare occasions produced anaphylactic shock. Such circumstances include a history of atopic disease, notably asthma (since these individuals seem to be prime candidates for developing ana-

phylactic sensitivity), and patients with a history of severe allergic reactions to drugs which are chemically similar to the agent whose use is under consideration; examples of the latter would be antibiotics, local anesthetics, and salicylates. Otherwise, the uncommon offenders should be used only when strictly indicated, and by the oral route whenever possible; this is the only practical prophylaxis available against anaphylactic reactions to this group of drugs.

Preliminary sensitivity tests are now in wide-spread use in an attempt to reduce the incidence of severe reactions to the two major offenders, foreign animal serum and penicillin. For years skin or ophthalmic testing has been standard procedure prior to the administration of foreign serum as an antitoxin, and similar tests are being adopted as a routine procedure in preparation for penicillin therapy.¹

A positive penicillin sensitivity test suggests the likelihood of a severe, immediate reaction, while a negative response indicates that an anaphylactic reaction is less likely to occur, but does not exclude this possibility.^{1,3} These sensitivity tests are of value only in predicting the majority of anaphylactic reactions to penicillin, and are of no value in determining the probability of a reaction of the delayed variety.³ Smith observed several patients with positive conjunctival tests but negative skin tests; one of these patients subsequently died from an anaphylactic reaction to penicillin.²⁹ McCuiston reported a near fatal penicillin reaction occurring in his office after a negative conjunctival test.⁴⁰

Smith studied a simplified sensitivity test procedure and concluded that, in addition to obtaining a history of previous reaction to penicillin, the only reliable method for identifying patients

susceptible to penicillin anaphylaxis was provided by preliminary skin and conjunctival testing. The seemingly good correlation between cutaneous and systemic sensitivity obtained apparently resulted from his use of undiluted penicillin, in the form of procaine penicillin in a concentration of 300,000 units per cubic centimeter, rather than the dilute solutions advocated by others. Patterson, however, advises caution when performing skin tests with penicillin, and this would seem especially pertinent when undiluted antibiotic is used, since serious reactions have occurred with the tests above.¹ Preliminary skin and conjunctival testing should also be employed when oral penicillin is to be used, since anaphylactic reactions associated with this previously believed safe route are by no means rare.

Thus, the present status of penicillin as a potent anaphylactogenic agent would seem to dictate its reservation for clinical situations where a bacteriologic diagnosis and *in vitro* sensitivity studies indicate that it is the drug of choice, and in this situation a prior reaction should be searched for historically and preliminary cutaneous and conjunctival sensitivity testing employed.⁴⁰ Only with this approach can penicillin be eliminated from its role as the major offender in anaphylactic reactions complicating modern therapeutics.

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Eastern Equine Encephalomyelitis

An infrequently discussed but very important disease

G. ALLEN MOULTON, M.D.

EASTERN EQUINE ENCEPHALOMYELITIS is a virus disease, affecting the nervous system of man and of many warm-blooded animals. A disease of sporadic recurrence and of varying mortality, it is found in the United States over an area including principally the tidewater regions of the Atlantic Coast.

For more than 100 years, the horse has been known to have the clinical disease and with a high mortality. Traditional names for the disorder have been "Staggers," "Encephalomyelitis," "Blind Staggers," and "Forage Poisoning." It is known as well by many local synonyms.²¹

A vaccine has been prepared which, when given to horses, results in a high degree of immunity. The disease, however, still occurs in horses that are not immunized even though they are few in number and despite the great decrease in the national horse population. It is recognized, therefore, that non-immunized horses are susceptible.

Since 1932, it has been known that birds frequently suffer from Eastern Equine Encephalomyelitis.^{8, 13, 15} All spe-

cies, including the chicken, are susceptible. Reports of the disease in wild birds including the English sparrow, partridge, and the pheasant have been recorded, and the mortality is high. Conservationists are particularly concerned lest the disease reduce the wild bird population, particularly the pheasant.

Mosquitoes, lice, and midges have been incriminated as vectors, particularly because of the parallel increase of these insects and encephalomyelitis in warm weather following a rainy season.^{6, 11, 12, 19}

The first proven case of Eastern Equine Encephalomyelitis in man from which the virus was isolated was reported by Fothergill, Dingle, Farber, and Connerley²⁰ in 1938. Since then, the disease has been reported as far west as the state of Louisiana, as far north as Wisconsin, throughout the southern United States, and in the northern part of Brazil.^{6, 14, 16, 17, 18}

It appears that man and the horse are infected concurrently with epidemics occurring in wild birds. Man and horse are considered to be "dead-ends" for the infection, as neither apparently serves as an agent of dissemination. Reports of human cases have included scattered, isolated, individual cases and groups of as many as 38 in one particular area. The human form of the disease is indeed alarming because of the high mortality and the destructive effects of the infection on cerebral tissue.³ It would appear

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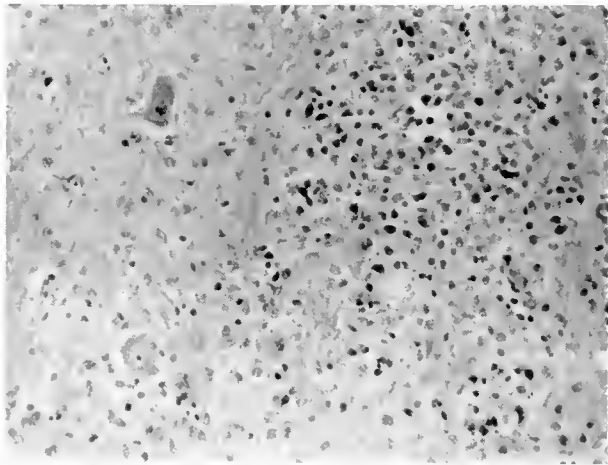


Fig. 1. Photomicrograph of cortex of pheasant showing focus of inflammatory destruction and of extensive leukocytic infiltration.

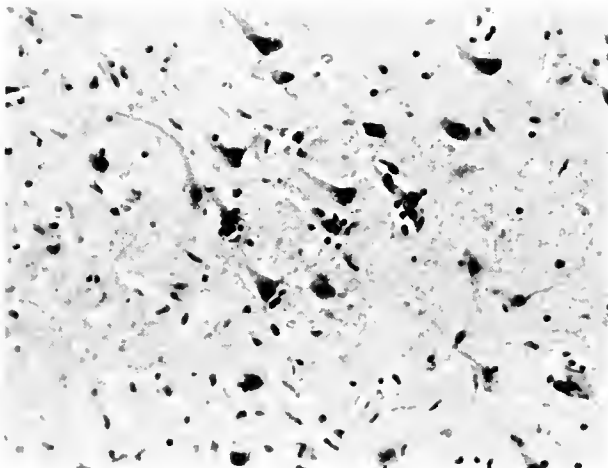


Fig. 2. High-power photomicrograph of cortex of horse showing leukocytic infiltration and early swelling and disintegration of neuron cells.

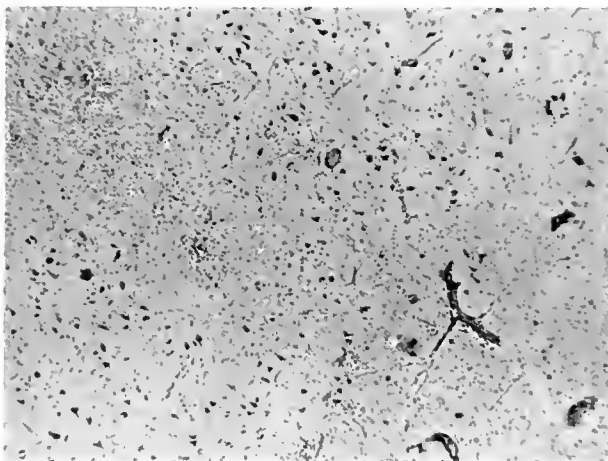


Fig. 3. Low-power photomicrograph of cortex of a horse showing perivascular foci of brain destruction and interstitial, leukocytic infiltration.

Fig. 4. Low-power photomicrograph of human cortex showing perivascular, spongy demyelination and early gliosis.

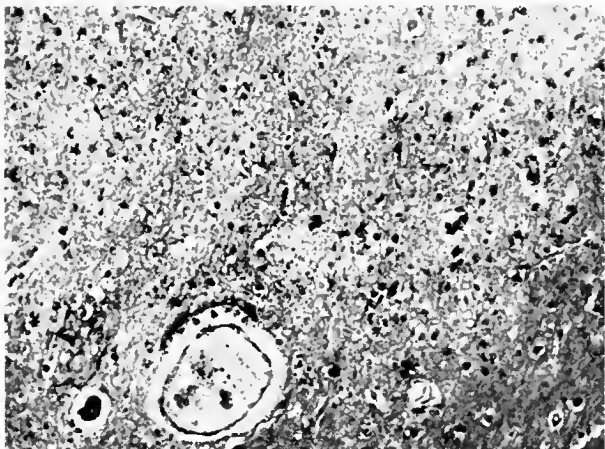


Fig. 5. Photomicrograph of human cortex showing focus of demyelination with gliosis in late phase.



that only four cases of complete recovery in man have been reported.

The Clinical Syndrome

Horses suffering from Eastern Equine Encephalomyelitis exhibit a syndrome described as being initially one of agitation. The horse walks in circles; his vision is impaired, and if he meets an obstacle such as a tree or fence post, he will stand in front of it and push until he drops from exhaustion. This period of "agitation" is rapidly followed by one of lethargy which is described by veterinarians as "a depression of psyche." The horse usually dies in from 24 to 48

hours following the onset of symptoms. Recoveries are rare, and these animals are useless.

In man, attention is called to the relationship and the possibility of the disorder through inquiry into pre-existing animal cases of encephalitis among domestic or wild birds or horses in the vicinity. In man, the disease begins with an intestinal "grippe-like" syndrome which lasts for one or two days and which is followed by apparent recovery and a state of well-being which lasts for from one to seven days. There is then a sudden onset of overwhelming toxemia with fever, coma, stupor, stiff neck, mus-

cular twitching, or even convulsions. The cerebrospinal fluid will contain from 2 to 2000 cells per cubic millimeter, most of these being polymorphonuclear neutrophils. The course of this disease varies. There is an estimated 62% mortality. In the few patients who have recovered, profound mental retardation, emotional instability, paralysis, and convulsions have been noted.

Pathology

Studies of the disease in the horse and in man^{1, 2, 4, 9, 10, 20} have been apparently similar although a paucity of adequately studied brain material prevents too accurate a conclusion. The disease is characterized by a perivascular focus of leukocytes, the focus occasionally being hemorrhagic. These areas are chiefly pericapillary and may be widespread throughout the entire brain although they are predominantly in the gray matter of the cerebral hemispheres. These foci show a distinct tendency for diffusion from the vessel into the adjacent brain with bubbly vacuolization of brain tissue and great focal destruction of neuron cells which may be seen in all stages of the degeneration. It is obvious that the encephalitic focus is a deliberate and progressive, destructive, and irreversible, inflammatory process and that the virus is obviously highly neurotropic.

But little else has been recorded concerning the nature of this disease in man. Indeed, despite the fact that the disease has been prevalent in the state of Maryland (and as late as 1959) and despite the fact that the disease in man has been known since 1938, but few reports involving careful study of the human nervous system have appeared. Data relating to epidemics in man have

been recorded chiefly in the public press. Indeed, the files of the nation's largest repository of pathologic material, The Armed Forces Institute of Pathology, do not contain a single proven human specimen.

Discussion

Eastern Equine Encephalomyelitis is a disease which has been known in the horse and in birds for many years. Man is susceptible to the disease and the proven relationship has existed since 1938. Periodically, epidemics in man have been reported with occasional single case reports but with most meager pathologic studies. The obvious difficulties lie in an apparent lack of contact between veterinarians and neuropathologists; in the infrequent nature of the epidemics in man; the failure of the practitioner to be conscious of the possibility of the disorder; and as well, the failure to make a virologically sound diagnosis or, in fatal cases, to prove the disease pathologically.

Eastern Equine Encephalomyelitis is a disease which obviously requires additional epidemiological, clinical and most certainly neuropathological study. Clinicians encountering symptoms compatible with Eastern Equine Encephalomyelitis in man should avail themselves of virological or neuropathologic consultants whose interest, enthusiasm, and assistance will no doubt materially aid in the acquisition of the desired, additional information.

Discussion By Dr. Charles N. Luttrell

Pathological studies of the kind described by Dr. Moulton are essential at the outset in providing a firm foundation for the further analysis of the pathogenesis of viral encephalomyelitides. Since 1890, the study of the pathogenic actions of certain neurotropic viruses has attracted the attention of a number of investigators. Many have sought to throw

light on these problems by the use of some method of parenteral injection of virus, often at some site in the peripheral or central nervous systems. How far such artificial methods further knowledge of the pathogenesis of infections that are acquired naturally remains controversial.

Let us consider briefly the more commonly considered views of central nervous system invasion by neurotropic viruses. It has been shown by a number of investigators that the inoculation of rabies, herpes, pseudo-rabies, and poliomyelitis into a major nerve trunk is followed first by regional, and later by more generalized involvement of the central nervous system. Although feasible experimentally with the great majority of neurotropic viruses, this ascending neural route is probably the one followed in natural infection only in rabies, in which the inoculation ordinarily takes place traumatically in saliva contaminated tissues in the depths of a dog bite. The most persuasive evidence for considering the neural route of central nervous system invasion in rabies is to be found in the experiments by Schweinberg and Windholz upon parabiotic rats possessing a common blood circulation. When rabies was injected into the leg of one of these rats, only that animal later developed signs of infection. Moreover, when emulsions were made from the brains of such rats and injected intracerebrally into guinea pigs, only those that received material from the inoculated member of the parabiotic pair subsequently became rabid.

As a result of the demonstrated occurrence of viremia, as a precursor to paralysis in epidemic poliomyelitis, interest has naturally become directed to possible sites in the central nervous system at which virus might escape from the blood stream and gain a foothold in the nervous system. Bodian suggested that the area postrema which lies just beneath the ependyma of the floor of the fourth ventricle might provide such a locus. Others, notably Horstman and Faber, have suggested that the spinal ganglia with their more permeable blood vessels might provide the initial site of invasion of the nervous system. The answer to the question of the usual site of invasion of the central nervous system from the vascular system remains unsolved.

The observation by Martin in 1950 that the inoculation of certain commonly used prophylactic

agents may occasionally be followed by paralysis of the limb injected has led to a condition known as provocative poliomyelitis. The pathogenesis of provocative poliomyelitis, both as to the occasional sequel of nonspecific injections and of unusually vigorous exercise (Russell, 1947), poses problems of much interest for the more general question of invasion of the central nervous system of neurotropic viruses. At present two theories compete for acceptance: first, virus particles circulating in the blood at the time of inoculation might escape into inflamed tissues and pass centripetally along a regional nerve trunk; second, irritation by a foreign material in the muscle leads to a bombardment of regional segments of spinal cord by sensory impulses, and the exaggerated neural activity may bring about local vasodilation in these segments that adversely affects the blood brain barrier.

There have been some recent experimental findings which suggest, but by no means prove, that segments of the cerebrospinal axis, rendered unusually active either by heightened sensory stimulation or by exceptional motor activity, may present sites of lowered resistance for the extravascular lodgement of any neurotropic virus particles that may chance to be circulating in the blood at the time.

Much of the basic information needed before investigations on the pathogenesis of many important nervous diseases can be undertaken lies in the fields of physiology and biochemistry. We must obviously solicit the collaboration of the basic biological scientists if we entertain any reasonable hope of solving the many problems posed by central nervous system disease.

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MEDICAL SCHOOL SECTION



Dean's Letter

Dear Members of the Alumni and Friends:

Most of the teaching of medical students in clinical medicine is done at the bedside and in small conferences in the clinics and seminar rooms. The quality and availability of many excellent up-to-date medical publications makes it unnecessary to present many lectures to students. The conference, the oral quiz at the bedside, the demonstration and explanation of clinical findings, plus the insistence on study of the pertinent literature does much to stimulate the student to form habits of study that may be lasting.

Great emphasis is placed on the rationalization of clinical findings and the basic sciences that underlie the pathological changes present in the patient. Findings without adequate scientific explanation are a great stimulation to seek the answers through investigation and research.

Great emphasis is placed upon the needs of the patient as well as the seeking of an adequate explanation for a symptom or clinical finding. Every effort must be made to afford the patient the best opportunity for health. Psychological as well as physical factors have to be emphasized to the student in the handling of every patient.

All of these factors mean that a large number of the clinical faculty must:

1. Devote a great amount of time to teaching.
2. Be skilled in the diagnosis and treatment of patients, both on a ward level and private patient level of practice.
3. Have a fundamental understanding of the basic sciences as they apply to clinical medicine.
4. Have ability as clinical investigators.
5. Be capable teachers in the classroom, lecture hall, and at the bedside.

All of these requirements point up the need for some full-time clinical faculty members on a geographic basis that are skillful in the handling of private patients as well as those in the wards.

Clinical medicine can no longer be adequately presented to the students by part-time and volunteer faculty. A combination of full-time, geographic full-time, part-time, and volunteer faculty provides the best balanced teaching program in the medical schools today.

If we are to insure that the physicians of tomorrow are adequately educated to meet their responsibilities, the medical profession must constantly work with the medical schools in the development of better teaching during the clinical years of study, both at an undergraduate and at a graduate level.

Sincerely,

WILLIAM S. STONE, M.D.

Dean

November 19, 1959

FACULTY APPOINTMENTS

Dr. Vernon Smith



DR. VERNON SMITH has recently been promoted to the rank of Professor of Clinical Medicine at the University of Maryland School of Medicine, and Head of the Department of Medicine at Mercy Hospital.

After attending St. John's College, College of William and Mary, and Temple University, where he received his medical degree in 1949, he interned and was resident in Medicine at Walter Reed Hospital where he remained as Chief of the Vascular Clinic until 1955. He then became Chief of the Medical Service of the U. S. Army Hospital in Augsburg, Germany, until 1957 when he entered private practice. He served during the Korean War as a Battalion Surgeon and was awarded the Bronze Star.

Since 1957 Dr. Smith has been a member of the staff of the University of Maryland School of Medicine and has been associated with a number of various subjects in Gastroenterology and Internal Medicine. His particular interests are in the field of Gastroenterology, Vascular Diseases, and Penicillin Sensitivity. During his stay at the Walter Reed Hospital he studied tissue oxygen tension using a polarographic technique which he developed.

Dr. Smith is a Fellow of the American College of Physicians, the American College of Chest Physicians, and is a

member of The American Geriatrics Society, The AAAS, and the AMA.

Dr. Smith's new duties as Professor of Clinical Medicine began as of August 1, 1959.

**Dr. Walter Ray
Hepner, Jr.**

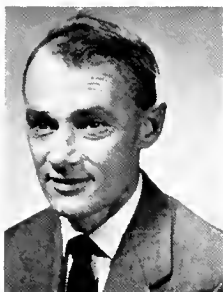


DR. WALTER RAY HEPNER, JR., was recently appointed Professor of Pediatrics. After attending San Diego College he got his medical degree in 1944 from the University of Chicago School of Medicine. Dr. Hepner served an internship followed by an active duty in the U. S. Navy and took up his Pediatric studies at the University of Chicago from 1946 to 1949. In 1949 he became Instructor of Pediatrics at the University of Chicago and in 1950 became Assistant Professor of Pediatrics at the University of Texas. After a second tour of Naval duty in 1952 to 1954 he became Associate Professor of Pediatrics at the University of Missouri, and in 1958 was promoted to Professor.

Dr. Hepner is a member of the American Board of Pediatrics, the Society for Pediatric Research, American Academy of Pediatrics, Society for Experimental Biology and Medicine, and Sigma Xi. He has published 15 papers on various clinical problems and has been particularly interested in retrolental fibroplasia.

He will direct the Newborn Nursery at the University Hospital.

Dr. Lorin J. Mullins



DR. LORIN J. MULLINS was appointed Visiting Professor of Biophysics in Psychiatric Research at the University of Maryland School of Medicine. Dr. Mullins attended the University of California and received his doctorate in Medicine at the University of Rochester, where he became Instructor in Medical Physiology.

During the war Dr. Mullins spent three years as an aviation physiologist. He is a fellow of the American Association for the Advancement of Science and has served as a member of the editorial board of *Science*. He is a member of the Biophysical Society, the American Physiological Society, the Society of General Physiologists, the New York Academy of Sciences, the American Chemical Society, the Society for Experimental Biology and Medicine, and Sigma Xi.

His chief interests are in the structure and function of the cell membrane and he has published numerous papers on permeability studies aimed at elucidating the mechanism of membrane selectivity.

Faculty Members Promoted

DR. JAMES R. KARNS was named Associate Professor of Medicine, and Dr. Edmund S. Rowe was promoted to Research Associate Professor of Medical Psychology.

Faculty Active at American College of Surgeons Meeting

THE following members of the Medical Faculty were present at the annual meeting of the American College of Surgeons held on October 26-30, 1959: Drs. Harry C. Bowie, R. Adams Cowley, R. M. Cunningham, Arlie Mansberger, Jr., Milton Sacks, E. Roderick Shipley.

Department of Surgery Presents Exhibit

AN exhibit on hypothermia compiled by the Department of Thoracic Surgery was presented by Drs. John Allen and Emil Blair.



National Society for Crippled Children and Adults
2023 W. Ogden Ave., Chicago 12, Ill.

POSTGRADUATE COMMITTEE SECTION

Postgraduate Committee, School of Medicine

HOWARD M. BUBERT, M.D., *Chairman and Director*

ELIZABETH B. CARROLL, *Executive Secretary*

Postgraduate Office: Room 201

Davidge Hall, Lombard and Greene Streets

Baltimore 1, Maryland

Neuropathology

As this material goes to press, the Postgraduate Committee is completing arrangements with Dr. John Wagner, Professor of Neuropathology, for a course in neuropathology to be given on four week-ends: December 11-12, 1959

January 22-23, 1960

March 11-12, 1960

May 13-14, 1960

Tuition for complete course: \$125.00

Depending on the demand, the course will be repeated.

Basic Sciences as They Apply to the Practice of Medicine

The course in basic sciences will begin on January 6, 1960, with 21 weekly sessions on Wednesday afternoons from 4:00 until 6:00 p.m. Tuition is \$50.00. For full information or to make application please contact the Committee office.

Clinical Anatomy (Formerly Surgical Anatomy)

The 15-week clinical anatomy course is scheduled to begin on January 25, 1960. Classes will be held Mondays from 2:00 until 5:00 p.m. and on Wednesdays from 8:30 until 11:30 a.m. Tuition is \$150.00. Inasmuch as enrollment is limited, early application is recommended. Please contact the Postgraduate Committee office for complete information.

Dermatology Days

The Postgraduate Course "Dermatology Days" was given on the campus on September 16 and 17, 1959, by the dermatology section of the department of medicine. Thirteen students were enrolled.

Industrial Medicine and Occupational Health

The Industrial Medicine and Occupational Health course which was given on October 1 and 8, 1959, was an even greater success than the one which was given last year. The Committee has been requested to plan a similar activity for next year. There were 77 students enrolled. This number does not include guests or house men.

Southern Maryland

An 8-session course is being given twice monthly September through December 1959, for the general practitioners who are members of the Maryland Academy of General Practice in the area of Calvert, Charles, and St. Mary's Counties. Meetings are held at the Auditorium in Hughesville. Seventeen physicians, representing the greater majority of practitioners in this area, are enrolled for the complete course and are receiving the instructions with enthusiasm.



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President's Letter

Dear Fellow Alumni:

This letter goes to press just before our alumni reunion at the Southern Medical Association meeting in Atlanta, Georgia, which we believe will be a success. We are now looking forward to other alumni reunions such as the one in Philadelphia at the meeting of the American Academy of General Practice on March 17; and the reunion at the North Carolina State Medical Society in Raleigh in May. The preliminary plans have been laid for the AMA meeting at Miami Beach in June. Dr. James Vaughn, who did such a good job at the Southern Medical Association meeting when we were in Miami before, has already made preliminary arrangements for this June meeting.

The alumni association is particularly anxious for you to be cognizant of Alumni Day which will be June 2, 1960, and is particularly anxious for the classes of 1910, and for every five-year group thereafter, including 1955, to have a good representation on Alumni Day. Please have your reunions planned well in advance!

The more who return for their reunion, the better opportunity we, as your alumni representative, have in understanding your feeling toward your education and the calibre of our graduates. We are trying to accomplish what we think you would want us to do but are handicapped because so few, if any, have written and offered suggestions. This leaves many important decisions up to your Board of Directors who would like to know if we are fulfilling your wants. Write us some constructive criticism in regard to the alumni problems as you see them.

President's Letter Con't

Write your classmates and arrange to return to the Baltimore Campus for Alumni Day, June 2, 1960. Make this our biggest and best year!

Sincerely,

ERNEST I. CORNBROOKS, JR., M.D.
President



Stanley E. Bradley

**Stanley E. Bradley Nominated
Recipient of 1960 Alumni
Honor Award**

DR. STANLEY E. BRADLEY, Professor of Medicine at the College of Physicians and Surgeons of Columbia University, has been named recipient of the Alumni Honor Award and Gold Key for the year 1960.

This award, established by the Medical Alumni Association more than a decade ago, is given annually to an Alumnus of the School of Medicine who has made outstanding contributions to medicine, as well as for distinguished service to mankind. Dr. Bradley is known not only for his many contributions to the knowledge of renal function in health and disease, but also for his ability as a clinical teacher.

Alumni Day Reminder

THE LETTER reproduced opposite was recently sent to all Alumni of the School of Medicine. Participation of each alumnus in the activities of his Association is most vital to the continuing success of all Alumni activities which in turn con-

tribute immeasurably to the efforts of the academic faculty.

It is most important that each alumnus identify himself with the active functions of his University. Alumni Day, Thursday, June 2, 1960, is such a day, dedicated by the University to the Alumni. A fine program of a scientific nature is in preparation. To many, the appearance of the physical plant will be nothing short of startling, as current appearances reflect the growth and developments of the past decade. A new faculty, many new academic innovations, and a most interesting research program await Alumni inspection.

1960		JUNE					1960	
SUN	MON	TUE	WED	THU	FRI	SAT		
			1	2	3	4		
5	6	7	8	9	10	11		
12	13	14	15	16	17	18		
19	20	21	22	23	24	25		
26	27	28	29	30				

Fellow Alumnus:

Please do not peep at this calendar; examine it carefully. Note that Thursday, June second, is stressed.

All alumni are urged to visit the Baltimore campus that day. An interesting program is already taking form and gives promise of being informative and entertaining.

Mark your calendar *now*, do some thoughtful planning — arrange to come and be a part of a great day. You will not only be enlightened and entertained, but will see faces and grasp hands you had permitted to slip from memory.

Sincerely,

WILLIAM H. TRIPLETT
Executive Director

HIGHLIGHTS OF SOUTHERN MEDICAL ASSOCIATION 1959 MEETING AT ATLANTA

Alumni Function Proves Successful

CAPPING a very active scientific session in which many alumni and faculty members participated, the annual alumni reception and dinner on the occasion of the annual meeting of the Southern Medical Association was most successful.

A committee, headed by Drs. Louis O. J. Manganiello and Thomas McPherson, were in charge of the organization of the program which included cocktails and dinner and in addition an illustrated lecture on the progress of the School of Medicine delivered by Dean William S. Stone.

Held at the Dinkler Plaza Hotel on Tuesday evening, November 17, the reception was attended by more than 50 persons and included the following:

Dr. and Mrs. Hartman
Dr. and Mrs. Francis Ellis
Dr. and Mrs. Rhea Richardson
Dr. and Mrs. Waldo McGill
Dr. Philbert Artigiani
Dr. John Wagner
Dr. and Mrs. George Shannon
Dr. and Mrs. Thomas McPherson
Dr. and Mrs. Eustace Allen
Dr. and Mrs. Raymond C. V. Robinson
Dr. and Mrs. John Echols
Dr. J. Morris Reese
Dr. and Mrs. John E. Savage
Dr. and Mrs. L. O. J. Manganiello
Dr. and Mrs. Erwin Jennings
Dr. and Mrs. LeVan
Dr. and Mrs. Leon Feldman
Dr. and Mrs. E. Paul Knotts
Dr. and Mrs. John R. Shell
Dr. and Mrs. J. R. Phillips
Dr. J. B. Dalton
Dr. Wm. C. Pickett
Dr. and Mrs. Jack Hightower



Dean Stone gives illustrated talk.

Dr. and Mrs. L. Guy Chelton
Dr. Eugene Bereston
Dr. and Mrs. Harry Robinson, Jr.
Dr. and Mrs. Ernest I. Cornbrooks
Dr. and Mrs. J. Edmund Bradley
Dr. William S. Stone
Dr. and Mrs. Eugene Conner
Dr. and Mrs. F. A. Holden
Dr. and Mrs. L. C. Donthal
Dr. Harry M. Robinson, Sr.

Dr. Stone spoke at length on the current appearance of the buildings at the School of Medicine, gave in detail plans and proposals for redevelopment of the area adjacent to the Baltimore campus and in addition discussed briefly the academic plans of the University insofar as teaching and research are concerned. Dr. Stone's remarks were illustrated with lantern slides.

Dinner at Dinkler Plaza Hotel, Atlanta, Ga.



L. to R.: Dr. Louis Manganiello, Dr. Thomas McPherson, Dr. Ernest Cornbrooks, Jr., Dr. Harry M. Robinson, Jr.





**President Cornbrooks Announces
Plans for 1960 Alumni Celebration
Alumni Day to be Celebrated
June 2, 1960**

DR. ERNEST R. CORNBROOKS, JR., President of the Medical Alumni Association, has announced preliminary plans for the June 1960 alumni celebration. Dr. J. Howard Franz has been appointed Chairman of the Committee on Arrangements, Dr. Isadore Kaplan will head the Reception Committee, and Dr. Edward S. Digges will act as Chairman of the Honor Award Committee.

Class captains for individual class reunions have been appointed. These include the following:

- 1910—Ralph C. Purnell Truitt
- 1915—Frank Earl Shipley
- 1920—Frederick Allen Holden
- 1925—Samuel S. Glick
- 1930—Lester T. Chance
- 1935—Harry M. Robinson, Jr.
- 1940—Wilford H. Townshend, Jr.
- 1945—John M. Dennis
- 1950—Frank G. Kuehn
- 1955—Everard F. Cox

Dr. Cornbrooks also appointed a Constitution and By-Laws Committee consisting of Dr. J. Morris Reese (Chairman), Drs. William H. Triplett, and Harry M. Robinson, Jr. A Student Loan Fund Committee, chaired by Dr. Gibson J. Wells and including Drs. Morris J.



Maryland Alumni at 1959 Southern Medical Association Meeting. Seated L. to R.: Dr. J. M. Reese, Dr. E. Paul Knotts, Dr. P. Artigiani. Standing L. to R.: Dr. L. Dobihal, Dr. F. H. Holden, Dr. R. Richardson, Dr. W. K. McGill.

Reese and Frank K. Morris, has been appointed.

The Class of 1935 is arranging the Scientific Program for Alumni Day.

**University of Maryland Medical
Alumni to Meet on Occasion of
1960 North Carolina State Medical
Association Meeting**

OUR North Carolina alumni have been organized for several years, and on the occasion of the annual meeting of the North Carolina State Medical Association, make it a point to celebrate with an appropriate reunion.

The 1960 meeting has been scheduled to be held in Raleigh, N. C., May 9-11, 1960. While at this date, the exact time of the reunion festivities has not been set, it is known that it will be held at the Sir Walter Raleigh Hotel. Dr. Carl N. Patterson of Durham, N. C., is in charge of arrangements, and Dr. Isaac Wright of Raleigh is serving as his assistant.

Alumni in and near the North Carolina area should watch the April 1960 issue of the BULLETIN for more detailed

information or should contact the Medical Alumni Association or Dr. Patterson. A large attendance is anticipated.

Class of 1935 to Arrange Scientific Program for Alumni Day

UNDER the leadership of Dr. Harry M. Robinson, Jr., Class Captain, the Class of 1935 has assumed responsibility for the entire scientific program for Alumni Day. Details of this program will be published in the April, 1960, issue of the BULLETIN.

Alumni Active at Recent American College of Surgeons Meeting

ALUMNI of the School of Medicine who registered at the recent meeting of the American College of Surgeons held in Atlantic City on October 26-30, 1959, included: Drs. George Bawden, Harold Biel, James Doukas, John Dumler, Wm. G. Esmond, Wm. Lumpkin, Deonis Lupo, Martin Middleton, Samuel E. Proctor, John K. Owen and Wm. J. McClafferty of Baltimore.

Drs. Wm. Long of Salisbury, Wm. H. Fisher, Jr., of Salisbury, Carlton Brinsfield of Cumberland, and J. Fred Hawkins, Jr., of Annapolis also attended the meeting.

Report of the Board of Directors of the University of Maryland Medical Alumni Association

August 18, 1959

The August meeting of the Board of Directors dealt with a number of subjects of vital interest to the association, viz: Finances, Certificates of Appreciation presented annually to all 50-year graduates, Student Loan Fund Contributions, liaison between Alumni Asso-

ciation and Faculty, reunions during S.M.A. meeting in November and Academy of General Practice in March 1960. Careful consideration was given to a Resolution presented at the annual meeting in 1959 by Dr. John D. Young, Jr. The unanimous opinion was that Section II of Article III of the By-Laws be amended so as to include Resident Staff of the University Hospital. Otherwise the article and section remain in *status quo*.

Application for Associate membership received and referred to committee.

A repeat Oyster Roast following the February 1959 example was scheduled provided treasury balance and mollusk availability would permit.

October 6, 1959

The October meeting brought forth a disturbing financial statement and pointed up the necessity of increased dues authorized at the annual meeting in June 1959. A banquet committee was appointed. The President reported that all future reunions of the Alumni, whether state or national, would be attended by a representative from the School of Medicine. Plans reported well underway for a reunion in Miami Beach during the A.M.A. meeting. Specifically, a dinner June 15, 1960, at the Roney Plaza Hotel. Dr. James Vaughn, Chairman.

Further consideration given the previously proposed Oyster Roast. Matter referred to Budget Committee.

Two applications for associate membership referred to committee.

A Student Loan Fund Committee was appointed.

J. EMMETT QUEEN, M.D.
Secretary

Fifty-Year Graduates to be Honored by Medical Alumni Association

MEMBERS of the class of 1910 of the three schools will be the honored guests at the reception. Below is printed the list of graduates of the several schools who will celebrate their fiftieth year in practice in 1960.

The Medical Alumni Association desires also to publish the class rosters of the reunion classes and these are found below. Many addresses are incomplete or inaccurate. These are denoted by an asterisk.

The addresses are published first as an aid to the class captains in arranging their several class reunions, and second, to offer the Medical Alumni Association an opportunity to acquire much needed corrections to the mailing lists. Such information will be most welcome, and members of the several classes are urged to inform Miss Beatrice Bossert, Executive Secretary, of any such new or corrected addresses.—Ed.

REUNION CLASSES 1910 Class Roster

University of Maryland School of Medicine

THOMAS Y GALO BROOKS
Santiago, De Cuba*

MORRIS L. CAHN
551 N. 11th St., Reading, Pa.

JOSEPH CATURANI
348 E. 116th St., New York, N. Y.

CHARLES M. COLLINS
596 Broad St., Providence, R. I.*

WM. STANISLAUS CONWAY
646 Carew St., Springfield, Mass.

GEORGE COOKMAN COULBOURN
Marion Station, Md.

JAMES F. COSTAS-DIAZ
St. Luke's Memorial Hospital, Ponce, Puerto Rico*

THOMAS DALTON CROUCH
Stony Point, N. C.

*Last known address.

WILLIAM BARBER FELLERS
Virginia*

FRANK PAUL FIREY
2224 N.E. 46th Ave., Portland 13, Ore.

H. M. FOSTER
2824 St. Paul St., Baltimore 18, Md.

OSCAR ANDREW GATLIN
Knotts Island, N. C.*

MICHAEL J. HANNA
Tanta, Egypt*

MAXEY GREGG HOFFMAN
Bunker Hill, W. Va.

ANDERSON L. HYATT
115½ S. Queen St., Kinston, N. C.

BENJAMIN KADER
6901 Fieldcrest Rd., Baltimore 15, Md.

NORMAN T. KIRK
Montauk, N. Y.

WINFIELD L. KOHN
3 E. 83rd St., New York 28, N. Y.*

ROBERT JONES LOVILL
125 Rockford St., Mt. Airy, N. C.

VERNON HASTINGS MCKNIGHT
Bridge St., Elkton, Md.

ROSCOE DRAKE McMILLAN
Red Springs, N. C.

CHARLES WADE MCPHERSON
323 W. Front St., Burlington, N. C.

HARRY BENJAMIN MESSMORE
Addison, Pa.

JAMES FREMONT MIGHT
Charleroi, Pa.*

JOSEPH R. ROBERTSON
1700 Johns Rd., Ext., Augusta, Ga.

LOUIS RUBIN
10510 Euclid Ave., Cleveland 6, Ohio

JOHN G. RUNKEL
715 Charing Cross Rd., Baltimore 29, Md.

GEORGE ELIAS SAWAYA
25 de Mayo 259, Tucuman, Republic
Argentina*

HARRY RALPH SEELINGER
4201 Newport Ave., Norfolk, Va.

JOHN VIRGIL SHULL
184 Kearney St., Perth Amboy, N. J.

GEORGE LEWIS STICKNEY
2 E. Read St., Baltimore 2, Md.

JAMES E. TALBOTT
Glenarth, Md.

RALPH C. PURNELL TRUITT
1118 St. Paul St., Baltimore 2, Md.

ALUMNI ASSOCIATION SECTION

WM. LAWRENCE VAN SANT
Hinton Hospital, Hinton, W. Va.

WALTER MICHAEL WINTERS
288 Broadway, Paterson, N. J.

College of Physicians and Surgeons

WILLIAM ANDERSON
143½ S. Main St., Salt Lake City, Utah*

WALTER D. BLANKENSHIP
31 Sunset Place, Lancaster, Pa.

HARRISON L. BREHMER
106 Girard Blvd., S.E., Albuquerque, N. M.

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4507 Perlita St., New Orleans, La.
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Caves Rd., Owings Mills, Md.
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*Last known address.

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*Last known address.

CLASS NOTES

P & S 1892

Henry W. Keator of 14 Janet St., Kingston, N. Y., is one of the School of Medicine's oldest practitioners.

A native of Roxbury, New York, he is an alumnus of both the College of Physicians and Surgeons, Class of 1892, and of the Albany (N. Y.) Medical College in the Class of 1896. For many years he practiced at Fleischmann's, a Catskill Mountain summer resort, retiring from this active practice in 1933. However, he has since been active in charge of the medical programs of the city schools of Kingston-on-Hudson since that time. Dr. Keator is a member of the honorary medical staff of the Kingston Hospital.

B. M. C. 1894

Frank C. Angell of Randolph, Vt., died on June 9, 1959 at the age of 88.

Class of 1897

Bernard Barrow of Blackstone, Va., died June 13, 1959 at the age of 84.

Class of 1898

Page Edmunds, Professor of Traumatic Surgery in the School of Medicine, died recently.

Class of 1899

Henry Clemm Hyde, 90, who for many years had practiced general medicine in the East Baltimore area, died November 19, 1959.

The son of the late Captain Edward L. Hyde and Caroline Rebecca Clemm Hyde, and a member of an old Baltimore family, Dr. Hyde first studied pharmacy and then studied medicine, completing his

training in 1899. For a while he taught pathology at the University and later served as coroner. He is survived by a son, E. Duncan Hyde; a daughter, Miss Elizabeth C. Hyde; a brother, Dr. Edwin Pechin Hyde of Ziroffay, France, and a sister, Mrs. J. Frank McBee.

B. M. C. 1900

Frederick Fernald of Nottingham, N. H., died July 17, 1959, at the age of 84.

Donald Reed Kunkelman of Canonsburg, Pa., died June 2, 1959. Dr. Kunkelman was 81.

B. M. C. 1901

David Bartine Ackley of 21 N. Clinton Ave., Trenton, N. J., died June 13, 1959, at the age of 83.

Class of 1901

Walter Teed Messmore of Fredericktown, Pa., died July 23, 1959, at the age of 81.

B. M. C. 1902

Theodore F. Hahn of Dreka Building, DeLand, Fla., died on August 20, 1959, at age 82.

Charles Henry Beemis of 817 E. Market St., York, Pa., died on July 5, 1959. Dr. Beemis was 87.

P & S 1902

The Alumni Association is informed that **Matthew Conlin** is seriously ill at the Keith Nursing Home, Grafton, Mass.

Class of 1903

Albert L. Wilkinson of St. Mich-

ael's, Md., died July 28, 1959, at the age of 80.

Class of 1905

Samuel Luther Bare of Westminster, Md., died September 26, 1959.

B. M. C. 1907

Leo Lloyd Gardner of Dallas Park Hotel, Miami, Fla., died on August 18, 1959, at age 76.

P & S 1907

Earl Floyd Glass of 40 Fourteenth St., Wheeling, W. Va., died on August 15, 1959, at the age of 80.

Class of 1907

Jacob (Jake) Wheeler Bird, of Sandy Springs, Md., met an untimely death in an automobile accident on October 25, 1959.

Jake Bird had been characterized as one of a generation of general practitioners rapidly passing from the American medical scene. In an article in the July BULLETIN (1959) by George A. Maxwell, a full tribute to the contributions Jake Bird made to the practice of medicine in the State of Maryland and in his local community of Montgomery County were accurately and fully displayed. His death was a shock to the many alumni and friends who valued his personal virtues, his friendship, and the many accomplishments he was able to achieve in the practice of Medicine.

B. M. C. 1909

Edward B. Bailey of 1202 Brook St., Wichita Falls, Tex., died August 22, 1959. Dr. Bailey was 73.

Class of 1910

Cyril Elmo Fowble of Upperco, Md., died June 11, 1959, at the age of 84.

P & S 1911

Philip Heyman of West 55th Street, New York City, died at the age of 71 on July 6, 1959.

B. M. C. 1912

Edmund M. Chitwood, of Wyethville, Va., died October 22, 1959.

P & S 1913

Kenna Jackson of 321 W. Main St., Clarksburg, W. Va., died July 16, 1959. Dr. Jackson was 77.

Duncan McL. Draughn of Moore Haven, Fla., died on July 6, 1959.

Class of 1913

Clyde Hemphill of Black Mountain, N. C., died July 17, 1959.

T. Butler Woods of 21 Chesapeake Ave., South Norfolk, Va., died September 4, 1959.

Class of 1914

Porter P. Vinson of the Medical College of Virginia in Richmond died at the age of 69, on August 28, 1959.

Class of 1916

Edward P. Thomas of 4 E. Church St., Frederick, Md., died August 25, 1959. Dr. Thomas was 67.

Class of 1917

Harry Roland Carroll of the U. S. Marine Hospital, Baltimore, Md., died September 7, 1959.

Samuel B. Rigby of Fairview, Utah, died on August 7, 1959, at age 71.

citation by the New York Chapter of the American Medical Writers' Association.

Class of 1919

H. B. McElwain has announced the removal of his office to 1800 N. Charles St., Baltimore 1, Md.

Class of 1920

Nestor De Cardona of 40 Calle Comercia, Aguadilla, P. R., died on June 3, 1959.

Class of 1921

H. C. Pillsbury has announced the removal of his office to 1800 N. Charles St., Baltimore 1, Md.

Class of 1923

James Franklin White of 7610 Eastern Ave., Baltimore, Md., died June 24, 1959. Dr. White was 58.

Class of 1930

Daniel E. Forrest, Jr., of Hillsboro, N. C., died January 11, 1959.

Class of 1935

August L. Ewald, Jr., of 36 York Court, Baltimore, Md., died on September 20, 1959.

W. C. Dunnigan has announced the removal of his office to 1800 N. Charles St., Baltimore, Md.

Class of 1936

Joseph Katz of Clinton, N. Y., died on June 28, 1959.

Class of 1937

J. E. Schmidt, well-known medical lexicographer, was recently awarded a

Class of 1938

Aaron Feder has been recently named Associate Professor of Clinical Medicine at Cornell University. A member of the attending staff of New York Hospital, Dr. Feder is also Associate Visiting Physician at Bellevue Hospital, Attending Physician and a member of the Medical Board of the Long Island Jewish Hospital, Consulting Physician at the Booth Memorial Hospital, and is both a Fellow of the American College of Physicians and the New York Academy of Medicine, as well as the New York Academy of Sciences. Dr. Feder makes his home at Great Neck, Long Island, and has his office at 40-42 75th Street, Jackson Heights, N. Y.

Paul W. Roman has announced the removal of his office for the practice of Diagnostic Roentgenology to 11 E. Chase St., Baltimore, Md.

Stanley E. Bradley has been nominated recipient of the Medical Alumni Association's Honor Award and Gold Key for the year 1960. Stan will be present on Alumni Day, June 2.

Class of 1939

George Tartikoff of 2020 Cortelyou Road, Brooklyn, N. Y., died July 22, 1959, at the age of 45.

Irvin Miller of 650 Main Street, New Rochelle, N. Y., died recently.

Class of 1940

William Parks Jamison, Youghiogheny Forest, Route #2, Oakland, Md., died September 28, 1959.

Class of 1945

Joseph M. White has announced his participation in the corporation of Long, Vineis and White, Inc., an advertising agency. Dr. White writes that his company is a new advertising agency different in total concepts of client service. His work will refer principally to the medical side of this new organization. Dr. White's new location is 10 Pine Street, Morristown, N. J.

Eugene H. Conner has recently been named Professor of Anesthesiology and Chairman of the Department of Anesthesiology at the University of Louisville School of Medicine, Louisville, Ky.

Class of 1947

Robert L. Swink of 550 Brickell Avenue, Miami, Fla., writes, "What has happened to the Class of 1947? Please ask them to give an account of their whereabouts." (Editor's note: May we suggest that members of the Class of 1947 seeing this, communicate with classmate Swink so that he may write for the BULLETIN a class account similar to that composed by Dr. Raymond Cunningham for the Class of 1939.)

Class of 1954

David H. Patten has recently returned from a tour of duty in the United States Air Force. Dr. Patten is now Research Fellow in Medicine (Endocrinology) at the New England Center Hospital of Tufts University, Boston, Mass. Dr. Patten resides at Brantwood Road, R. F. D. #1, Norwell, Mass.

Robert B. Goldstein has entered the practice of Urology with his father, Dr. Albert E. Goldstein, and will have his offices at 3505 N. Charles St., Baltimore, Md.

Daniel H. Framm has recently opened his office for the practice of Pedi-

atrics at 302-A Sunrise Lane in Chattanooga, Tenn. Dr. Framm is associated with Drs. Tapper and Zuckerman.

A former intern at the Mercy Hospital in Baltimore, Dr. Framm completed his residency in Pediatrics at the Georgia Baptist Hospital in Atlanta, Ga.

Class of 1956

W. C. Pickett is currently serving as Chief Resident in Medicine at the University of Florida School of Medicine, Gainesville.

Class of 1958

Richard J. Erickson has recently been appointed to and is now serving a general practice residency at the University of Tennessee Research Center and Hospital in Knoxville, Tenn. Dr. Erickson served his internship at the Edward F. Meyer Memorial Hospital in Buffalo, N. Y. His present address is 1009 Loghaven Drive, R. F. D. 20, Knoxville, Tenn.

Capt. Meredith S. Hale has informed us of his new address, which is Box 216, Fort Greely (Alaska), APO 733, Seattle, Wash.



DR. WILLIAM H. TRIPLETT, Executive Director of the Medical Alumni Association, opening one of his gifts received at the surprise birthday party given him by the Board of Directors on October 6th.

PLEASE TEAR OUT

ALUMNI NEWS REPORT

TO THE BULLETIN:

I would like to report the following:

TEAR OUT

SUGGESTIONS FOR NEWS ITEMS

American Board Certification
Change of Address
Change of Office
Residency Appointment
Research Completed
News of Another Alumnus
Academic Appointment
Interesting Historic Photographs

Name _____

Address _____

Class _____

Send to

Bulletin—School of Medicine
University of Maryland
31 S. Greene St.
Baltimore 1, Md.

NOTICE!

To Alumni and Friends of the Bulletin

Beginning January 1960 *THE BULLETIN* is again prepared to accept advertising, subject to the approval of the Editorial Board.

The following pages list the pertinent information for prospective advertisers. Extra copies of this rate and data prospectus may be obtained from:

William J. Wiscott
Managing Editor
3722 Greenmount Avenue
Baltimore 18, Md.

GENERAL INFORMATION

1. **Frequency of Issue:** Quarterly
2. **Established:** January 1915
3. **Official Organ:** School of Medicine and Alumni, University of Maryland
4. **Subscription Rate Per Year:** \$3.00
5. **Premium or Combined Subscriptions:** None
6. **Special Issues:** None
7. **Editorial Content:** Original manuscripts, abstracts from current literature, book reviews, alumni news and comment
8. **Special Editorial Features:** Scientific Articles, Abstracts, Book Reviews, Case Reports, Medical School News, Annual Department Reports, Alumni News
9. **Copy Restrictions:** Editorial Committee passes on all advertising copy. Submission in duplicate for advance clearance is requested.
10. **Advertising accepted** for ethical products used by physicians, such as pharmaceuticals, surgical supplies and equipment, books, etc. Most types, from reputable firms, are suitable for Committee consideration. Alcoholic beverages and tobacco products not eligible.
11. **Placement Policy of Advertising:** Advertising precedes and follows editorial section.
12. **Advertiser's Index:** None
13. **Average Ratio:** None
14. **Percentage of Advertisers Using Space for Past Five Years:** None
15. **Service to Advertisers:** Editorial Reprints: Quotations are furnished upon request, which must be accompanied by written authorization of the author within 30 days of journal's issue.
16. **Closing and Mailing Dates:** Following apply only to copy previously cleared; stated as number of days prior to month of issue, publisher's deadlines are:

Space reservation or cancellation	46 days
Copy to be set	36 days
Patch or resetting instructions	32 days
Proofs and insertion order for plated ad	30 days
Insert copies and insertion order	22 days
Mailed between 5th and 15th of publication month.	
17. **Editor:** Dr. John A. Wagner, 31 S. Greene Street, Baltimore 1, Maryland.
Managing Editor: William J. Wiscott, 3722 Greenmount Avenue, Baltimore 18, Md.

CIRCULATION

BULLETIN OF THE SCHOOL OF MEDICINE

UNIVERSITY OF MARYLAND

18. **Frequency of Issue:** Quarterly
19. **Coverage:** National and Foreign
20. **Circulation:** 2400
21. **Circulation Verification:** Sworn statement
22. **Estimated Circulation by January, 1960:** 2400
23. **Subscription Rate Per Year:** \$3.00 U. S., U. S. Possessions and Canada
24. **Premium or Combined Subscriptions:** None
25. **Annual Percentage of Renewals Paid Within 90 Days:** 90%
26. **Length of time publication is sent to subscriber** after expiration of subscription: 1 issue; notice of renewal is mailed 60 days prior to expiration date.
27. **Rate Per M** based on estimated paid circulation, January, 1960 issue and 1960 rate scale (12 times rate).
28. **Market Served:** Alumni Physicians of the Medical School of the University of Maryland who include specialists in all fields of medicine as well as those in general practice and those engaged in teaching.
29. **Type of Reader:** Physicians engaged in practice or teaching of medicine and all its specialties.
30. **Territorial Distribution:***

Alabama	6	Maryland	763	Pennsylvania	154
Arizona	7	Massachusetts	45	Rhode Island	27
Arkansas	1	Michigan	20	South Carolina	19
California	61	Minnesota	8	South Dakota	0
Colorado	5	Mississippi	2	Tennessee	15
Connecticut	40	Missouri	5	Texas	30
Delaware	19	Montana	2	Utah	4
District of Columbia	36	Nebraska	0	Vermont	6
Florida	58	Nevada	4	Virginia	55
Georgia	28	New Hampshire	2	Washington	8
Idaho	4	New Jersey	123	West Virginia	105
Illinois	15	New Mexico	7	Wisconsin	3
Indiana	4	New York	187	Wyoming	2
Iowa	3	North Carolina	90	U. S. Poss.	28
Kansas	2	North Dakota	3	Canada	1
Kentucky	8	Ohio	57	Other Foreign	1
Louisiana	6	Oklahoma	3	Hawaii	2
Maine	7	Oregon	4	Total	2,098

* Based on October 1959 Issue.

RATE CARD

BULLETIN OF THE SCHOOL OF MEDICINE

UNIVERSITY OF MARYLAND

31. **Frequency of Issue:** Quarterly
32. **Closing Date:** See Nos. 16 and 51
33. **Mailing Date:** Mailed between 5th and 15th of publication month
34. **Agency Commission:** 15%
35. **Cash Discount:** 2%, 10 days
36. **Rates:** Effective January, 1960 issue

	<i>1 time</i>	<i>4 times</i>
One page	\$60.00	\$50.00
Half page	32.50	27.50
Quarter page	17.00	15.00
8 time rate (pages only) \$45.00		
37. **Earned Rates:** The 4 or 8 time rate is earned by use of that bulk amount of space used within a period of one contract year.
38. **Preferred Positions & Rates:**
 - 3rd cover—25% above "run of the book" black & white rate
 - 4th cover—50% above "run of the book" black & white rate
39. **Special Issues:** None
40. **Color Rates:** Standard color, \$25.00 extra
41. **Color Rates for Spreads:** \$50.00 for standard color
42. **List Standard Colors:** Yellow, Green, Brown, Bright Red, Orange, Deep Blue, Azure Blue
43. **Matched Colors:** No additional charge
44. **Bleed Rates:** 25% additional over applicable rate
45. **Bleed Rates for Spreads:** 25% additional over applicable rate
46. **Additional Bleed Information:** See page 4
47. **Insert Rates:**
 - 2-page inserts: 3 times the earned page rate
 - 4-page inserts: 6 times the earned page rate
48. **Additional Insert Information:** Tip-ins not accepted; die-cuts upon approval
49. **Miscellaneous:**
 - (a) Contract requirements: Space reserved 15th of second preceding month. Contingent upon clearance of products and copy by Editorial Committee.
 - (b) Cancellation requirements: Advertising may be discontinued by either party at any time giving written notice within 30 days prior to next scheduled issue.
 - (c) When copy is not provided before closing date, preceding advertisement is to be repeated.
 - (d) Processing requirements: Triplicate proofs, or 3 inserts, and progressive proofs must accompany insertion order for publisher's routine release processing.
 - (e) Clearance requirements: Advertisements not previously cleared require at least 5 days more than stated under No. 16.
 - (f) Type requirements: Pharmaceuticals must be identified by (1) use of generic (common) name, in conjunction with trade name, in 8 point size type if placed next to headlined trade name, or in 10 point size if only such identification placed elsewhere; or (2) use of composition statement (for mixtures) including generic names for active ingredients, in minimum of 8 point size type.

MECHANICAL REQUIREMENTS

BULLETIN OF THE SCHOOL OF MEDICINE

UNIVERSITY OF MARYLAND

50. Frequency of Issue: Quarterly

51. Closing Dates: If copy requirements and instruction deadlines (Nos. 16 and 49) are met, closing dates for material to be sent to printer are (number of days before month of issue):
 Patch electro. 25 days
 Patch, complete 25 days
 Insert shipment 15 days

52. Mailing Date: Mailed between the 5th and 15th of publication month

53. Paper Stock:

Cover . . . 60 lb. white enamel cover
 Inside . . . 60 lb. machine coated

54. Binding: Saddle wire stitched

55. Halftone Screen Requirements: 110 line for covers and inside pages

56. Composition Set for Advertisements:

Closing date for submission of proofs: 15th of preceding month
 Closing date without submission of proofs: Same as above

57. Reproduction Requirements:

Original zinc plates	Not required
Original copper plates	Not required
Electros	Blocked
Plastic plates	Not accepted
Mats	Not accepted

58. Standard Colors: Color chart available from publisher upon request.

59. Insert Requirements:

Stock	90 lb. maximum
Closing	20 days preceding month of issue
Shipping address	Bulletin of The School of Medicine University of Maryland 3722 Greenmount Avenue Baltimore 18, Maryland
Mechanical requirements	2-page inserts to be furnished 4-page inserts to be furnished Page trims to 6 $\frac{7}{8}$ x 10

60. Bleed Plates: Size of plates should be 7 $\frac{1}{8}$ " x 10 $\frac{1}{4}$ "; allow $\frac{1}{4}$ " inside all trim edges.

61. Sizes:

	1 page	1 $\frac{1}{2}$ page	1 $\frac{3}{4}$ page
Plate	5" x 8 $\frac{1}{2}$ "	5" x 4 $\frac{1}{8}$ " or 2 $\frac{3}{8}$ " x 8 $\frac{1}{2}$ "	2 $\frac{3}{8}$ " x 4 $\frac{1}{4}$ "
Bleed	7 $\frac{1}{8}$ " x 10 $\frac{1}{4}$ "		
Trim	6 $\frac{7}{8}$ " x 10"		

62. Address for Plates & Patch Electros: Enclose with proof in wrapper marked with date of issue to: William J. Wiscott, 3722 Greenmount Avenue, Baltimore 18, Md.

63. Address for Insertion Orders, Patch Instructions, Set Copy, Advance Copy, Plate Returns, etc: Send with required proofs, sample inserts and progressive proofs to: William J. Wiscott, 3722 Greenmount Avenue, Baltimore 18, Md.

64. Holding of Plates: Held for one year after publication date, then destroyed unless disposition instructions are furnished.


 Managing Editor

Prepared in accordance with recommendations of the Committee on Publications of the Pharmaceutical Advertising Club of New York

MEDICAL SCHOOL SECTION



Dean's Letter

*Dear Members of the Alumni and
Friends of the School of Medicine:*

Plans for urban renewal of the Baltimore campus are continuing to materialize. The federal funds for the project have been made available in the amount of \$4,363,299.00, and State Funds for necessary matching are included in the current budget of the University now before the legislature.

The Medical School has applied to the U. S. Public Health Service for funds to match those appropriated by the State for the remodeling of the Hecht Building into a basic science research and teaching area. When these resources are available it should be possible to double or triple the current research program in the basic science area and to provide for a much better teaching effort with a 20% increased enrollment.

Dr. William Dewey Blake has been selected as the new Head of the Department of Physiology. He is an outstanding investigator and teacher in the fields of cardio-renal physiology. Every effort will be made to build up the Department of Physiology and to provide opportunity for integrating this important basic science in the clinical teaching.

Sincerely,

WILLIAM S. STONE, M.D.
Dean

February 25, 1960



**Dr. William Dewey
Blake
Appointed
Professor of
Physiology**

THE Board of Regents of the University of Maryland has announced the appointment of Dr. William Dewey Blake as Professor of Physiology and Chairman of the Department. Dr. Blake succeeds Dr. William R. Amberson who retired in 1959.

Dr. Blake is a native of New Jersey and an alumnus of Dartmouth College, receiving his Doctor of Medicine degree from Harvard Medical School. He served his internship at the Presbyterian Hospital in New York. Following a period of military service, he returned in 1947 to the Presbyterian Hospital, where he served as Assistant Resident and a year later was appointed to the faculty with the rank of assistant physician. Later he became research fellow in the College of Physicians and Surgeons of Columbia University.

In July 1949, he was appointed instructor and later assistant professor of physiology at the Yale University School of Medicine. Since 1952 he has served as Associate Professor of Physiology at the University of Oregon's Medical School. His chief interest is in problems related to the physiology of the kidney. Dr. Blake is a member of the American Physiological Society, the American Society for Clinical Investigation, the Western Association of Physicians, and the Society of Sigma Xi. It is expected

that Dr. Blake will assume his duties at the School of Medicine July 1, 1960.

DIVISION OF DERMATOLOGY Robinson Dermatologic Foundation Incorporated

THE Division of Dermatology has announced the founding of the Robinson Dermatologic Foundation Incorporated. Its prime purpose is to provide funds for research and education in dermatology. The initial deposits in the Foundation were made by Dr. Harry M. Robinson, Jr., Professor of Dermatology, and Dr. R. C. V. Robinson, Associate Professor of Dermatology. The Doctors Robinson have dedicated the royalties on their book "Clinical Dermatology" to the fund. Any other gifts received by the Division will be deposited in this fund. In announcing the terms of the corporation, Dr. Robinson stated that neither of the principal incorporators are to derive any personal benefit from the funds and at the death of either, the principal is to be given to the University of Maryland, Division of Dermatology, and is to be deposited in the fund for dermatologic education and research.

Dr. Wisseman Named to Newly Formed National Board

DR. CHARLES L. WISSEMAN, JR., Professor of Microbiology and Head of the Department, has been recently appointed a member of a newly established Microbiology Training Committee in the National Institutes of Health.

The Committee, composed of experts representing the different specialties of microbiology, has been organized principally to carry out a new government financed graduate training program in microbiology. Its purpose is to support

pre- and post-doctoral training in schools of medicine, public health, veterinary medicine, and other recognized graduate schools, research institutions, and hospitals. Subjects to be included will be bacteriology, virology, microbial genetics, cellular physiology, and cellular metabolism.

Library Dedicated to Dr. Harry M. Robinson, Sr.

THE Division of Dermatology recently dedicated its dermatology library to Dr. Harry M. Robinson, Sr., Emeritus Professor of Dermatology.

In ceremonies opening the library, Dr. Harry M. Robinson, Jr., Professor of Dermatology, stated "In this library we have a fairly good collection of dermatology texts and journals. The library is furnished with some comfortable chairs and the center of attraction is a portrait of 'Pop' (Dr. Harry M. Robinson, Sr.) at the height of his teaching career."

The library is expected to grow into a useful departmental reference source for both attending dermatologists and students. The Division of Dermatology solicits contributions of monographs and texts on dermatology or related fields. It is expected that a continuing fund to support the library will shortly be developed by the Division.

Annual Medical Writers' Institute Announced

A UNIQUE course presented annually by the Rensselaer Polytechnic Institute of Troy, New York relating to the practical and theoretical aspects of medical writing will be held on June 13-17, 1960. Information may be obtained by corresponding with Dr. Jay R. Gould, Director, Medical Writers' Institute,

Rensselaer Polytechnic Institute, Troy, N. Y.

Department of Medicine Receives P.H.S. Grant

DR. ADALBERT F. SCHUBERT, Assistant Professor of Medicine, has received a grant from the United States Public Health Service totalling more than \$18,000 to be devoted to the study of abnormal blood serum factors in patients suffering from rheumatoid arthritis.

Department of Pathology Receives Large Training Grant from National Institutes of Health

DR. HARLAN I. FIRMINGER, Professor of Pathology, has recently announced a grant of \$125,000 from the National Institutes of Health to support the training of medical students, residents in pathology, and other scientists in experimental pathology. The grant will continue for a period of five years.

The acquisition of this support materially aids the program of experimental pathology, which was commenced in 1956 under the direction of Dr. Lester Kiefer, Assistant Professor of Pathology, and particularly will be useful in the development of experimental "know-how" and basic techniques which might be employed in the development of additional techniques applicable to a wide range of investigative problems.

Atomic Research Also Included

The program of atomic research has also been planned under the direction of Dr. Kiefer, following his return from a basic course in radioisotope techniques at Oak Ridge, Tenn., during the month of June 1960. The plans to integrate this program with the experimental pathology program are well under way.

Dr. Florence Mahoney Nominated for National Honor



DR. FLORENCE I. MAHONEY, Associate Professor of Physical Medicine and Rehabilitation in the Department of Preventive Medicine and Rehabilitation, and who also serves as Chief of the Physical Medicine and Rehabilitation Service of the State Chronic Disease Hospitals, was recently cited by Governor J. Millard Tawes for her work in rehabilitating the handicapped. Originally named by a Committee of the Medical and Chirurgical Faculty, Dr. Mahoney became Maryland's candidate for the 1959 Physician's Award by the President's Committee on Employment of the Physically Handicapped.

Faculty Members Nominated to Military Medical Commissions

DR. THEODORE E. WOODWARD, Professor of Medicine, and Dr. Charles L. Wisseman, Jr., Professor of Microbiology, have been recently appointed to the Armed Forces Epidemiological Board, a unit of the Department of Defense started during World War I as the Army Epidemiological Board, constituted to combat the outbreak of influenza. Members of this Board, who will advise both the military and civilian aspects of the Department of Defense, are customarily outstanding specialists in communicable disease and metabolic disorders of epidemiological significance.

Maryland Society for Medical Research Continues Activities to Preserve Uninterrupted Supply of Animals for Research

MANY physicians will remember the Maryland Society for Medical Research as the organization which sprang to life a number of years ago to challenge and to ultimately win over opposition which would have prevented the use of certain animals for laboratory experimentation in the medical sciences.

This organization continues active and is now affiliated with a national organization, disseminating information and continuing its watchdog activities over organizations which would seek to institute legislation prohibiting the proper application of the scientific method in medical research.

With offices at 522 W. Lombard St. in the Medical School, the officers for 1960 include Mr. Ralph E. Edwards, President, Rabbi Abraham Shusterman, Vice-President, Dr. R. Walter Graham, Jr., Treasurer, and Dr. Dietrich C. Smith, Secretary. The organization publishes a monthly bulletin, now in its ninth year. This newsletter contains not only progress reports on national and local legislation, but relates also to the general policies and principles involved in the procurement, care, and use of laboratory animals in experimental medical and basic science research.

The organization seeks new members and strives to maintain the interest of the thousands of Baltimore laymen and physicians who responded to the Society's activities a number of years ago.

Application for membership should be made to the Secretary, Dr. Dietrich C. Smith, Maryland Society for Medical Research, 522 W. Lombard St., Baltimore.

MARYLAND IN THE 60'S

An Editorial Note

ABOUT ten years ago, the faculty of the School of Medicine in cooperation with the Board of Regents of the University undertook an extensive study and an ultimate reorganization of the School of Medicine and its related facilities. In the early '50's few personnel changes and little departmental reorganization took place; however, plans were laid, and construction begun, on such needed additions as the Psychiatric Institute, the medical library, additions to the University Hospital, with a basic groundwork for the ultimate development of the entire Baltimore campus in an orderly fashion.

By the mid-portion of the fifth decade, a large portion of the senior faculty had retired, and during the past five years, literally hundreds of new faces have appeared in the professorial ranks, from new department heads down through the complex organization of research facilities, including research assistants, associates, and the many ancillary personnel necessary for the operation of a complex university organization. This

growth and development may not appear always orderly from day to day; however, the morphology of departmental organization now begins to take shape, and it is with pleasure that the BULLETIN will present a series of surveys relating to these new or re-organized departments as they exist at the beginning of the sixth decade of the 20th century.

Credit for this work goes to a new member of the BULLETIN staff, Miss Elizabeth Wilson, who heads the University Relations Division on the Baltimore campus. Miss Wilson has interviewed a number of department chairmen and other members of the departments, and will from time to time present for your interest a verbal and, if possible, a pictorial review of the departmental organization, staffing, plans, and research programs.

First on the list is the Division of Otolaryngology, a subdepartment of Surgery. For many years, this department was staffed entirely by volunteer, part-time personnel. In 1957, a complete reorganization was effected.

J. A. W.

MARYLAND IN THE 60'S

1. THE DIVISION OF OTOLARYNGOLOGY

By

ELIZABETH WILSON

THE Department of Surgery's Division of Otolaryngology has been under the full-time direction of Dr. Cyrus Lloyd Blanchard, Professor of Otolaryngology, since April 1957.

The division has grown rapidly under Dr. Blanchard's leadership. The Otology Clinic is now open five days a week, from 12:30 to 4:00 P.M., and more than a thousand patients were treated surgically during 1958-1959. This increase in patient load has been made possible through expansion of the staff and equipment.

With financial assistance from the National Institutes of Health, the Otology Clinic on the third floor of the outpatient building was renovated. Support from the Woman's Auxiliary Board of University Hospital provided audiometric testing rooms, soundproofed and fully equipped for evaluation of hearing and speech disorders, both in the outpatient building and the main hospital. The Hill-Burton renovations, which are expected to begin in March 1960, will modernize the Looper Clinic area in the main hospital to improve facilities there for endoscopy and minor surgical procedures.

In July 1958 an audiologist and a speech therapist joined the staff. Their services are closely allied with those of the otolaryngologist. This new arrangement greatly extends the range of hearing and speech disorders that can be differentiated and treated in the Otology Clinic; for example, laryngectomy pa-

tients can now be retrained there to speak. More clinical and experimental investigation of hearing is also possible and the division is in a better position to attract students to the field of academic and research laryngology.

The Division of Otolaryngology is co-operating with the Division of Radiology in treating advanced carcinoma of the head and neck by radical surgery combined with cobalt-60 irradiation.

Clinical and anatomical investigations are also being conducted in the division with the aim of devising other new techniques to improve such current surgical methods as stapes mobilization and tympanoplasty for the hard of hearing.

Division members work in close co-operation with the Central Evaluation Clinic for Children and the Adult Evaluation Clinic in the diagnosis of patients with communication disorders.

One of the division's research projects, relating to "Brain Events During Sound Stimulation of Unanesthetized Animals," is being carried out by Dr. Donald E. Bogdanski in the Neurophysiology Department of Walter Reed Army Research Center. This project is supported by the Department of the Army and is under the immediate supervision of Dr. Robert Galambos. Each trainee in the division is assigned for a period of time to this project and is thereby made familiar with important new basic research techniques in otolaryngology.

All aspects of Dr. Blanchard's new program ultimately benefit the student.

In the opinion of Dr. Robert Haase, Instructor in Otolaryngology, the most significant achievement in the past three years has been the improvement in teaching and the amount of basic knowledge imparted.

To quote Dr. Thomas O'Rourke, who has been associated part-time with the medical school for more than 30 years and was acting head of the division prior to 1957, Dr. Blanchard's reorganization and full-time direction of activities have put the division "on the move—on the upgrade."

Dr. Blanchard regards the outpatient department as the foundation of the teaching unit and says he is now making plans for an expanded clinic in the new Ambulatory Services Building which is to be built within the next few years. He also hopes for better facilities soon in the main hospital, and particularly for more surgical beds, which still remain in critical shortage.

Biographical Notes

TEACHING STAFF—UNIVERSITY HOSPITAL

CYRUS L. BLANCHARD, M.D., *Professor of Otolaryngology and Head of Division:*

Dr. Blanchard was born in Massachusetts and is a graduate of Clark University in Worcester. He received his medical degree from George Washington University in Washington, D. C., and his training in otolaryngology at the Memorial Hospital in Worcester, Massachusetts, the Audiology and Speech Correction Center, Walter Reed General Hospital (where he served in the Army), and at the University of Michigan School of Medicine.

Before coming to Maryland in 1957 Dr. Blanchard was an assistant in surgery in the Department of Otolaryngology of the University of Southern California School of Medicine.

In addition to his work at the University of Maryland, Dr. Blanchard also serves as medical director of the Baltimore Hearing Society and consultant for the Medical Board of the Maryland Crippled Children's Society.

GEORGE CARL ALDERMAN, M.D., *Attending Otolaryngologist and Instructor:*

Dr. Alderman was born in Baltimore and was graduated from Loyola College. He received his medical degree at the University of Maryland School of Medicine and served his internship at University Hospital.

After a year of work in otolaryngology at the University of Pennsylvania Graduate School of Medicine and 15 months of service as a lieutenant in the U. S. Navy, he returned to Baltimore in July 1956 as Assistant Resident in Otolaryngology at Johns Hopkins. Thereafter, with an interim period of six months at Baltimore City Hospitals in 1958, he continued to serve his residency alternately at Johns Hopkins and University Hospital until his appointment in September 1959 as part-time physician and instructor in the Division of Otolaryngology.

DONALD F. BOGDANSKI, Ph.D., *Research Associate in Otolaryngology:*

Dr. Bogdanski was born in Port Chester, New York and is a graduate of the Columbia University College of Pharmacy. He received his Ph.D. in pharmacology in 1955 from the Georgetown University Graduate School and since then has been employed as senior assistant scientist by the U. S. Public Health Service.

Dr. Bogdanski has published many articles about his research relating to serotonin and other psychotropic drugs.

RICHARD JOSEPH CROSS, M.D., *Instructor in Otolaryngology:*

Dr. Cross was born in Baltimore and was graduated from Mt. St. Mary's College. He received his medical degree from the University of Maryland School of Medicine and did graduate work in otolaryngology at Georgetown University.

He saw active service during the Korean War as a major in the U. S. Air Force.

Dr. Cross has published articles on pharyngeal bursitis, bronchiogenic carcinoma, granuloma of the mastoid, and acute diffuse external otitis.

He is a fellow of the American College of Surgeons and of the International College of Surgeons and a member of several other professional societies.

He has been a practicing otolaryngologist in Baltimore since 1955.

JAMES J. GERLACH, M.D., *Assistant in Otolaryngology:*

Dr. Gerlach was born in Baltimore and was graduated from the University of Maryland School of Medicine in 1946.

He served a rotating internship and residency in otolaryngology at Mercy Hospital and spent 33 months in the Army, where he was chief of ENT at the Pentagon Dispensary, assistant chief of ENT at Tripler General Hospital in Honolulu, chief of the Station Hospital in Rabaul, New Britain, and chief of EENT at the Army Hospital in Ft. Jackson, S. C.

He attended the Graduate School of Medicine at the University of Pennsylvania in 1951-1952 and the Lempert Institute of Otology in 1952.

Dr. Gerlach is a fellow of the American Academy of Ophthalmology and Otolaryngology. He has been practicing otolaryngology in Baltimore since 1952 and since 1957 has limited himself to otology.

F. ROBERT HAASE, M.D., *Instructor in Otolaryngology:*

Dr. Haase is a native Baltimorean. He attended Baltimore City College before entering the University of Maryland, where he received a B.S. degree from the School of Pharmacy and M.D. from the School of Medicine.

His training (surgery, otolaryngology, and bronchoesophagoscopy) was at Church Home & Hospital, University Hospital, University of Pennsylvania Graduate School of Medicine, Temple University Hospital, the U.S.N. Hospital Ship Haven, and the Navy Hospital at Bethesda.

Dr. Haase is a member of Phi Delta Chi and a diplomate of the American Board of Otolaryngology. He is a practicing otolaryngologist in Baltimore.

THOMAS D. MICHAEL, M.D., *Assistant in Otolaryngology:*

Dr. Michael was born in Baltimore and attended Friends School here. He was graduated from Franklin & Marshall College in Lancaster, Pennsylvania, and received his medical degree from Jefferson Medical College of Philadelphia.

He served his residency at University Hospital and has been practicing otolaryngology in Baltimore since 1953.

Dr. Michael's recent publications include an article in the *Bulletin of the New York Academy of Sciences* about the bacteriology of the upper respiratory tract and another in *Antibiotic Medicine and Clinical Therapy* concerning the clinical trial of a new anti-microbial agent, sulfadimethoxine.

THOMAS R. O'ROURK, M.D., *Professor of Otolaryngology:*

Dr. O'Rourke was born in Sparrows Point, Maryland, and is an alumnus of St. John's College. He received his medical degree from the University of Maryland School of Medicine in 1921, interned at University Hospital, and has been associated with the medical school and has practiced otolaryngology in Baltimore since that time. He was made Professor of Surgery in 1950 and was acting head of the Department of Otolaryngology from 1953 to 1957.

He is a member of the American College of Surgeons.

HOUSE STAFF—UNIVERSITY HOSPITAL

STEVEN BORSANYI, M.D., *Third-Year Resident:*

Dr. Borsanyi is a native of Hungary, where he received his medical degree from the University of Medicine in Budapest and served his internship in surgery at the Budapest University Hospital.

Since joining the staff here in 1958 he has published articles discussing agenesis of the lung, glioma of the frontal bone, and the relationship of cirrhosis of the liver to parotid enlargement.

RESTITUTO SALUTA GOROSIN, M.D., *Third-Year Resident:*

Dr. Gorosin is a native of The Philippines. He was born in Manila and received his medical degree from the University of St. Tomas College of Medicine.

After coming to this country, Dr. Gorosin served his internship at the Samaritan Hospital, Troy, New York, and had three years of general surgical training at Maryland General Hospital.

Dr. Gorosin has been with the Division of Otolaryngology since 1958.

JERALD HORNE BENNION, M.D., *Second-Year Resident:*

Dr. Bennion was born in Salt Lake City and is a graduate of the University of Utah.

He received his medical degree from the University of Maryland School of Medicine in 1956 and served his internship at the Latter-Day Saints Hospital.

Before his appointment here, Dr. Bennion spent two years in the U. S. Army practicing general surgery in the 10th Field Hospital.

DAVID A. COPE, M.D., *First-Year Resident:*

Dr. Cope, who will join the division in July 1960, was born in Reading, Pennsylvania and is an alumnus of Lafayette College in Easton, Pennsylvania. He received his medical degree at the University of Maryland School of Medicine in 1958.

Dr. Cope has served a year of rotating internship at the Reading Hospital and is now spending another year there in pathology.

BERTRAM CLYDE THORNE, M.A., *Audiologist:*

Mr. Thorne was born in Brooklyn, New York. After serving as lieutenant in the Merchant Marines, U. S. Maritime Service, from 1943 to 1949 he attended Brooklyn College, where he received an A.B. degree in 1952 and an M.A. in 1954. The next three years were spent in teaching and research at Purdue University as graduate assistant in speech and hearing.

Mr. Thorne is a member of Sigma Alpha Eta, an honorary speech society.

JOHN F. CARTER, M.A., *Speech Therapist:*

Mr. Carter was born in Mt. Savage in Western Maryland. He received his B.S. degree at State Teachers College in Frostburg and his M.A. in speech and hearing science at the University of Maryland, where he has done considerable other graduate work in the same field.

Before coming to Baltimore, he worked as speech therapist in the Prince George's County school system and as research assistant in speech therapy at the University's College Park campus.

Mr. Carter is a member of the American Speech and Hearing Association and the American Hearing Society.

Pre-Commencement Exercises to Be Held Friday, June 3

DR. WILLIAM S. STONE, Dean, has announced the pre-commencement exercises for the Class of 1960 will be held on Friday, June 3, 1960, weather permitting, on the campus south of the University Hospital. Chosen as speaker for the occasion will be Dr. Louis A. M. Kraus, Professor of Clinical Medicine.

Fifth International Poliomyelitis Conference To Be Held in Copenhagen, Denmark, July 26-28, 1960

ALUMNI who have a special interest in poliomyelitis, or who might be traveling in Europe during the summer of 1960, might benefit from attendance at the Fifth International Poliomyelitis Conference, which will be held at the Falkonercentret, Copenhagen. The official hotel will be the Hotel Three Falke. All aspects of the problem of poliomyelitis will be covered.

Dr. John C. Krantz Nominated to National Research Council

DR. JOHN C. KRANTZ, JR., Professor of Pharmacology, has been recently appointed a member of the National Research Council to represent the American Society for Pharmacology and Experimental Therapeutics in the Division of the Medical Sciences. Dr. Krantz will serve for a three-year term.

THE CRISIS IN MEDICAL EDUCATION*

HON. LISTER HILL
U. S. Senator from Alabama



I AM happy to be with you today in the observance of your commencement exercises.

Although I have spent the greater part of my life as a legislator, I come to you as one who came very close to becoming a practitioner of the beneficent art of medicine. My father, Dr. Luther L. Hill, who was a surgeon and practitioner of medicine for more than a half century, and who bestowed upon me the name of the great surgeon, Joseph Lister, under whom he had studied in England, tried very hard to make a doctor out of me. However, the severe palpitations of the heart, excessive perspiration and queasiness of the stomach which I exhibited while attending one of his more difficult operations convinced me that my vocation lay elsewhere. But my family connections in medicine are still deep-rooted—not only am I the son of a doctor but I am the nephew of a doctor, the brother-in-law of two doctors and the first cousin of five doctors.

One of my brothers-in-law, the late Dr. C. G. Laslie of my home city of Montgomery, Alabama, was a graduate of this school. He was more to me than a brother-in-law, he was far more akin to a brother in the blood, and it is with

a deep love for his memory that I feel privileged and honored to be here at his school with you today. May I say that this alumnus of your school was not only a kindly, able, dedicated man, but the vital statistics of the Alabama State Health Department show that for a number of years he brought more babies into the world than any other doctor in the entire State of Alabama.

I can think of no more appropriate place to talk about the future of medical education in American than the hallowed ground on which we are assembled. Yours is the fifth medical school to be founded on this continent. The early and sometimes bitter struggles which led to its founding are an inspiration to all of us who struggle day by day to solve the present deepening crisis in medical education.

On a raw November day in 1807, in the city of Baltimore, a howling mob attacked and wrecked the home of Dr. John Beale Davidge. The object of the mob's insensate fury was a cadaver which Dr. Davidge had secured and was to use to instruct the seven students who formed the first class in the infant College of Medicine of Maryland. For the first eight years of its existence, in the face of financial deficits and the lack of suitable buildings for instruction, the three-member faculty, Dr. John Shaw,

*Speech by Senator Hill at Pre-Commencement Exercises of University of Maryland Medical School, June 5, 1959.

Dr. James Cocke and Dr. Davidge, battled valiantly. Dr. Shaw died as a result of exposure suffered while working winter nights in the dilapidated structure that was the College's home in 1808.

By 1812 enough money was raised by lotteries and by the contributions of faculty and friends to construct the time-honored structure which was the first on this new continent to be devoted entirely to medical education. And here on the site was also founded the first medical school library in the United States.

In the embryonic days of American medicine, despite many vicissitudes, the College of Medicine of Maryland produced great leaders. Probably the most remarkable was Dr. John Crawford, who before the birth of Louis Pasteur advanced the revolutionary theory that diseases produced by infection were caused by the entrance of living germs into the body. Dr. Crawford was not content with theorizing—in about 1800 he began the use of vaccine virus for the prevention of disease.

In the roll call of distinguished landmarks in the healing arts, your great State and your magnificent university must be accredited with many historic contributions. A most remarkable practitioner, Dr. Horace H. Hayden, who in 1810 had been licensed by the Medical and Chirurgical Faculty to practice dentistry in Maryland, conducted an unrelenting campaign to establish a college of dentistry. Many years later, on February 1, 1840, his efforts were crowned with success when the Maryland Legislature granted a charter to the Baltimore College of Dental Surgery—the first institution of its kind in the world, and the home of the only profession founded in the United States. It is of historic significance that this pioneer college of dentistry, which later became an integral

part of the University of Maryland, has graduated over 8,000 men and women who have established practices in every State in this nation and in most of the countries of the world. Many have played key roles in the establishment of new dental schools in our growing nation.

You have achieved great distinction in the profession of nursing. Founded 70 years ago by Louisa Parsons, a student of Florence Nightingale's, your school today proudly confers upon graduate nurses the cap originally designed by Miss Nightingale. Now a full-fledged college, the University of Maryland School of Nursing runs the gamut from a one-year curriculum in practical nursing to a Master of Science degree in nursing.

At the present time the Baltimore campus of the University of Maryland is one of the great teaching centers of the health professions in America. Indicative of its importance is the fact that 57% of Maryland residents entering medical schools are enrolled in your School of Medicine.

Proud as we are of these accomplishments, we would be less than honest if we did not admit that the present crisis in medical education threatens the very continuance of the high standards of health and well being that for so many decades we have struggled to bring to every man, woman and child in America.

In 1955, soon after assuming the chairmanship of the Senate Labor and Public Welfare Committee, which has jurisdiction over health legislation, I received a document, *Mobilization and Health Manpower*, prepared by the Health Resources Advisory Committee and submitted to the President of the United States. This report, prepared under the direction of Dr. Howard A. Rusk, one

of America's most distinguished physicians, spelled out in no uncertain terms the fact that we were producing fewer doctors per population than before World War II. Let me quote from the report:

"We have a tight supply situation in the three major health professions—medicine, dentistry and nursing. The supply both of physicians and dentists has not increased as fast as the population in the period since the beginning of World War II. The supply of nurses has increased more rapidly, but there are still many unmet demands for graduate nurses.

"There are unmet demands today in medical education, public health, mental and tuberculosis hospitals, industry and rehabilitation, to name only a few areas. Many rural areas and small towns are in need of practicing physicians. Hospitals in increasing numbers are using alien physicians for house staff service.

". . . If the threat of attack on the cities of this country were to materialize in any of the presently predicted forms, the combined effect of civilian casualties and casualties in the health professions would place a considerably heavier burden on the population than did the last war, when the civilian population suffered neither military attack nor such an occurrence as the influenza pandemic of the First World War. A civilian disaster of the magnitude possible today could put an incredible load on the civilian health personnel."

During 1955, on the basis of the Rusk report and similar surveys, the Senate Committee on Labor and Public Welfare conducted exhaustive hearings. We received indisputable evidence that to bolster their existing plants the medical schools were in desperate need of financial aid. Dr. Vernon Lippard, Dean of the Yale University School of Medicine, estimated that to correct the fiscal deficiencies in our present medical school plant from \$350 million to \$500 million was needed immediately. Over and above this, he estimated that the schools needed

an additional \$40 million a year to overcome operating deficits.

"Granted that this is a lot of money," Dr. Lippard told the committee, "it does not seem beyond reason that a nation which spends as much for tombstones, and much more for cosmetics than for medical education, can find a way to support the very foundation of its health program."

In 1957, our committee held another series of hearings on legislation which I had introduced several years before to provide Federal aid to medical education. Appearing on behalf of the Deans of the medical schools, Dr. Joseph C. Hinsey, Director of the New York Hospital-Cornell Medical Center and for many years Chairman of the Executive Council of the Association of American Medical Colleges, told the committee that practically all of the medical schools responding to an official questionnaire favored the bill, which would give matching Federal support to medical education.

Dr. Hinsey further advised the committee, "It is evident that this bill will increase significantly the number of physicians being produced to meet the health needs of the growing population, and it will do so without sacrificing quality which is of unquestioned importance where matters of health are concerned. This increase in freshman enrollment will soon result in some 1,000 more physicians being graduated each year." Pointing out that the medical schools would raise 60% of the contemplated fund if the Federal matching incentive of 40% was provided, Dr. Hinsey warned the committee that the medical school was presently the weakest and most under-financed link in our total health picture.

"With the physician today the basic

person in the health picture, the medical school is the one link in the chain which must be strengthened," Dr. Hinsey declared. "Large increases in college enrollments are virtually certain. More qualified students may be expected and graduated, for the graduates of our medical schools are sorely needed. From these graduates come the research workers whose efforts—usually in a medical school setting—will solve more and more of our health problems. The health of the nation depends upon the quality and quantity of medical education."

In the two years since those hearings, the present Administration has received additional evidence of the desperate need for aid to medical education. In 1958, a committee of distinguished medical consultants headed by Dr. Stanhope Bayne-Jones reported to the then Secretary of Health, Education, and Welfare, Marion Folsom, that the situation was worsening and that merely to maintain the present ratio of physician to patient there was an immediate need for 15 to 20 new medical schools.

In the fall of 1958, Dr. Leroy Burney, the distinguished Surgeon General of the Public Health Service, told the American College of Surgeons that the balance between doctors and patients in this country was now "at the peril point."

Appearing several weeks ago before the Senate Appropriations Subcommittee on health matters of which I am chairman, Dr. Burney told us that we were graduating only 7,500 physicians a year and that merely to maintain the present doctor-patient ratio we would have to graduate 3,000 more each year by 1975.

"The lack of enough well-qualified physicians, dentists, research scientists and other professional categories of personnel is probably the largest single im-

pediment barring national health progress in all parts of the country," Dr. Burney warned the committee.

We are now informed that the Eisenhower Administration is making still another study of the plight of our medical schools. It is my fervent hope that this will be the *final* study and that the Administration will come forward with desperately-needed recommendations to aid all the professional schools in the field of health education.

Up to now I have talked about America's desperate need for more doctors that its present high levels of health care may be maintained. But in most parts of the world these high standards of medical care which we take for granted are still far beyond the outstretched hands of the impoverished and the sick.

In a world which modern communication and transportation make smaller each day, we become increasingly aware of the plight of our fellow men in many parts of the world. At the turn of the century the great physician, Sir William Osler, wrote, "Humanity has but three great enemies: fever, famine, and war; of these, by far the greatest, by far the most terrible, is fever." His words still ring true. We are aware of the fact that an underprivileged two-thirds of the human race is constantly afflicted by the ravages of disease. Millions of these people suffer from the age-old scourges of malaria, tuberculosis, and the various intestinal infections. In many countries of the world a third of the babies die during the first year of life, and life expectancy falls 30 and 40 years short of the Biblical three score and ten.

At present we are engaged in a gigantic effort to stop the spread of Communist imperialism, which is competing with us for the uncommitted peoples of the world. In the ill health and poverty of

the submerged peoples of the world Communism finds a ready breeding place. Communist forces of militant medicine are on the march.

Yet we who once fired the shot "heard round the world," and gave a new dimension to personal liberty in the founding of a Republic which guaranteed life, liberty, and the pursuit of happiness to all of its citizens, have been slow to meet this challenge.

In the closing days of the 85th Congress, I introduced a bill which would provide the mechanism through which this country would join with all the countries of the world in a united medical research offensive against the major killers and cripples of mankind. The bill would create as part of the National Institutes of Health a National Institute of International Health and Medical Research. This Institute would be charged with the support of worthy medical research projects submitted by competent investigators from all parts of the world. It would support the training of specialized research personnel here and abroad, it would encourage and support the rapid international exchange of research knowledge concerning disease and disability.

In introducing this bill on the Senate floor, I pointed out that the unfinished tasks facing medical research are truly staggering. For example, cancer, that most ancient enemy of man, is rising in its incidence in 33 countries of the world. What more priceless bounty could be given to the suffering peoples of the world than a cure for this universal and dread disease?

In the current session of the Congress, 63 Senators joined me in the reintroduction of this legislation. I am happy to say that the Senate on May 21st passed the bill by a vote of 63 to 17. During

the last week in February of this year hearings were held on this International Medical Research Act, and I think it is but fair to state that it received unprecedented and overwhelming support from doctors, scientists, voluntary health organizations, and civic leaders.

However, at these very same hearings we received impressive evidence that unless we immediately increased our supply of doctors and other health personnel we would be unable to bring the boon of good health to the underprivileged two-thirds of the human race. Furthermore, we received evidence that the Soviet Union is currently engaged in a massive effort to train more doctors, many of whom will be assigned to the underdeveloped countries.

Within her own borders the Soviet Union has built enormous medical resources. As disclosed in his own writings, Lenin was deeply aware that he could not build a modern industrial system in Russia until he had cut down the death rate in that country. He knew that the greatest resource of Russia was not physical and financial capital but human capital.

The life expectancy of the average Russian has increased from 40 years at the beginning of World War I to 67 years today. During this period the supply of doctors increased tenfold, and today, in proportion to its population, Russia has 25% more doctors than we have in America. Furthermore, the Russians are currently graduating 16,000 doctors a year, more than twice the number we graduate in this country.

The implications of this gigantic Russian medical offensive were clearly outlined for our Senate Committee by John T. Connor, the president of a large pharmaceutical house which has successfully competed with the Russians in

bringing better health facilities to the peoples of India. Here is what Mr. Connor told the Committee:

"What does the Soviet Union plan to do with this rising supply of doctors, so many of whom are trained in the languages and cultures of Asia, Africa, and the Middle East? Reports from inside Russia indicate that she is sending about 2,000 of them a year to the underdeveloped countries. We should ask ourselves, Mr. Chairman, how many converts per month each of these medical missionaries will account for as he—or she, because many of them are women—peddles the gospel of Communism in return for the promise of good health?

"The survival of the free world may well depend on how soon we face up to the implications of this question. To me, they seem clear. They call for a bold, new medical aid program for the underdeveloped countries.

"This will require an aggressive, dynamic mobilization of all of America's medical resources—the highly trained members of our private medical profession as well as U. S. Public Health Service personnel, the medical schools and research institutes, the foundations and the pharmaceutical and medicinal chemical industry."

I know that you doctors, deeply aware of the splendid contributions of your University in all fields of health, will accept this magnificent challenge and that many of you will bring new honor to your profession as you carry to the far corners of this world the blessings of good health—yes, of life itself.

You enter the profession of medicine at a moment bright in medical history. For we stand at the threshold of a momentous era—a Golden Age of Medicine. You will be a part of this great new adventure in medical science.

May I predict that within a few short years the world will see a momentous breakthrough of medical knowledge that will enable us to overcome many of the

dread diseases that have plagued and baffled mankind through the ages.

But all the wondrous new drugs and chemicals, the ever more delicate and subtle devices, the greater knowledge of nutrition and preventive medicine, all that we know of human life and its mysterious workings—these are only the sinews and the tools of medicine.

The doctor is the mind, the spirit, the genius of medicine. The doctor is ever the central figure in the drama of medical care. All else is to assist him to do his best, to help him achieve the best possible results.

Medical practice must never lose its central, vital fact—the human relationship between the doctor and his patient. Indeed, in our troubled world, where the individual is beset on one side with massive world problems and on the other is subjected to deep personal tensions, there will be greater need than ever before for this reassuring personal contact.

The doctor of yesteryears is gone—he who was general practitioner, specialist, surgeon, obstetrician, psychiatrist, counselor and friend all in one. But the doctor of today has found—as you, the doctors of tomorrow, will find—that the sick, the suffering, the troubled of any time and any place still look with confidence to the doctor for understanding, for guidance, for the supporting hand.

Let me take this opportunity to say, with affection and respect, what so many tens of thousands of men and women and children will say to you in the years to come. Some will say it with their voices, some with their eyes, all will say in their hearts that which I would be the first to say to you:

Thank you for what you have done.

Thank you for what you will do.

Thank you for what you are.

Thank you for becoming doctors; for having taken the hard way; for having resisted the easy; for having worked and studied and sacrificed. Thank you for having had so early in life the wisdom to know that only in a life of constant study and service to your fellow man can your lives be rich and meaningful.

We turn then to you, the doctors of the coming day. Yours is the challenge, yours the task. I have faith that you shall meet the challenge; that you shall perform the task.

National Society for Medical Research Issues Warning to Physicians Concerning Laboratory Animals in Interstate Commerce

A MEMORANDUM from the National Society for Medical Research, whose offices are at 920 South Michigan Boulevard, Chicago 5, Ill., indicates proposed legislation to obstruct interstate shipment of laboratory animals.

According to Ralph A. Rohweder, Executive Secretary, a proposal is already on its way to the 86th Congress, which would adopt a law to limit the interstate shipment of laboratory animals. If physicians are not alert to this possibility, those who would propose the restrictive legislation might interfere with orderly processes of public health and preventive medicine which might endanger the lives of the entire nation,

I say to you, go forward, Doctors, into the ever-widening, the endless frontiers of medical discovery and medical knowledge, to serve as our fathers served; healing the sick and making whole the maimed, safeguarding the mother in childbirth and the infant so newly come to this world, bringing life and health and happiness to our fellow man, following with humility and faith in the footsteps of Him Who nearly two thousand years ago was called the Great Physician.

for such legislation would interfere with the shipment of monkeys from India, mice from Maine, or dogs from farms in the southern states, as well as a host of other creatures of biologic importance from near and far, all of which serve medical research.

Support for the National Society for Medical Research is directly linked with support for the Maryland Society for Medical Research and inquiries might be well directed to Dr. D. C. Smith of the Department of Physiology, University of Maryland, who is a member of the Committee on Interstate Shipment of Animals of the National Society.

Direct communication with representatives in the 86th Congress might also be beneficial. Additional information may be obtained from the national society.



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President's Letter

Dear Fellow Alumni:

In the last few years, a conscientious effort has been made to put our organization on a sound basis. Many of our objectives this year had to be cancelled due to lack of funds, and much remains to be accomplished. As this is my last letter as President of our Association, I urge you to lend support to your new officers. The new President and Board of Directors will start the new term with a well planned budget, and with the authorized increase in dues we feel our organization will be able to realize many facets of its future plans. One of the ways you can support your Alumni Association is by becoming and continuing to be dues paying members.

I want to thank all who have helped to make the association mature this year. There are too many to thank individually. It is my hope all will extend this same support to our incoming president, Dr. Arthur Siwinski, and that more alumni will take an active part in their association. Let us be sure that our graduates do not become so-called scientific automatons, but are truly "Gentlemen of the Art of Medicine."

Please attend the alumni functions at your school on June 2, as well as those of the American Medical Association reunion at Miami Beach on June 15.

Sincerely,

ERNEST I. CORNBROOKS, JR., M.D.
President

Plans Now Complete for Alumni Day—Thursday, June 2, 1960

PRESIDENT ERNEST CORNBROOKS has announced the complete program for Alumni Day which will be held Thursday, June 2, 1960.

Following a customary registration period, a scientific program will be presented in Chemical Hall. This will include the following: "Hypospadias—Complete Correction" (motion picture)—Howard B. Mays, M.D.; "Problems in Thoracic Surgery" (illustrated)—J. Norman Wilson, M.D.; "Griseofulvin" (motion picture)—Harry M. Robinson, Jr., M.D.

Dr. J. Howard Franz, member of the Alumni Association's Executive Committee, has announced that the program above will be under the auspices of the Class of 1935.

Bradley to Receive Alumni Honor

Following the scientific program, the annual meeting of the Medical Alumni Association will take place, and this will be followed by the presentation of the Alumni Gold Key and Honor Award to Dr. Stanley E. Bradley, Professor of Medicine at Columbia University and a member of the Class of 1938.

An Outstanding Alumnus

An honor graduate of the School of Medicine and a former intern in the University Hospital, Stan Bradley's record of achievement in experimental physiology and the pathologic physiology of the renal system has been outstanding during the past two decades. (Ed. Note: A complete account of Dr. Bradley's many accomplishments was contained in the July 1959 number of the BULLETIN, Vol. 44, pages xxvii-xxviii, which announced his appointment as Professor

of Medicine and Chairman of the Department at Columbia University.)

The annual luncheon of the Medical Alumni Association will be held in the gymnasium of the Psychiatric Institute, this to be followed by the informal class reunions, with particular emphasis on the decade classes. The annual banquet will be held at the Lord Baltimore Hotel later in the evening.

Details of the entire Alumni Day program will be mailed each alumnus well in advance of June 2nd.

Reception Committee to Greet Returning Alumni on Thursday, June 2

DR. ERNEST CORNBROOKS, President of the Medical Alumni Association, has appointed a Reception Committee to greet returning alumni on the occasion of the annual Alumni Day activities and banquet to be held June 2, 1960. The reception committee is listed below.

Returning alumni should look for the familiar "Reception Committee" badge and be reminded that these gentlemen are the official representatives of the Alumni Association and will be happy to assist in any way possible.

Reception Committee

WILLIAM S. STONE, M.D., *Honorary Chairman*
WILLIAM H. TRIPLETT, M.D., *Honorary Chairman*

ISADORE KAPLAN, M.D., *Chairman*
WALTER A. ANDERSON, M.D.
MARGARET BALLARD, M.D.
EDMUND G. BEACHAM, M.D.
EVERARD F. COX, M.D.
JOHN M. DENNIS, M.D.
SAMUEL S. GLICK, M.D.
BENJAMIN HIGHESTEN, M.D.
FRANK G. KUEHN, M.D.
ERNEST LEIPOLD, M.D.
H. EDMUND LEVIN, M.D.
FORD LOKER, M.D.
HARRY M. ROBINSON, JR., M.D.
WILFORD H. TOWNSEND, JR., M.D.
DAVID R. WILL, M.D.

Alumni Luncheon to be Held on Occasion of North Carolina Medical Association State Meeting

Function to be staged May 9, 1960

DR. CARL N. PATTERSON, Chairman of the local Medical Alumni activities of the University of Maryland on the occasion of the North Carolina Medical Society meeting, has informed the Medical Alumni Association office in Baltimore that a luncheon will be held on Monday, May 9 at the College Inn in Raleigh, N. C., beginning at 12:30 P.M.

Dr. Patterson has also reminded alumni who plan to attend the meeting that a University of Maryland reception desk will be available for reservations relating to the luncheon.

Alumni desiring to make advance reservations should either contact Dr. Carl N. Patterson, the McPherson Hospital, 1110 W. Main St., Durham, N. C., or should contact the Medical Alumni Office direct.

University of Maryland Medical Alumni Reunion at American Medical Association Meeting

UNDER the direction of Dr. James A. Vaughn, Jr., arrangements have been made for a reunion of Maryland Alumni during the American Medical Association meeting in Miami Beach, Florida this year. Please note:

The Date: Wednesday, June 15, 1960

The Place: The Roney Plaza Hotel

The Time: Assembly for fellowship hour, 6:30 P.M. on the Ivy Terrace; 7:30 P.M. buffet in the Imperial Room

The American Medical Association will provide a registration desk at the Roney Plaza for our Maryland group's convenience. Look for the University of

Maryland Medical Alumni Association sign! If further information is desired apply to Dr. James A. Vaughn, Jr., 5965 Ponce de Leon Boulevard, Coral Gables, Florida.

Report of the Board of Directors of the University of Maryland Medical Alumni Association

December 15, 1959

Dr. Cornbrooks presiding, with nine members present.

The Budget Committee reported for the fiscal year 1960-61. The state of the treasury necessitated a stringent limitation of expenditures and accordingly a repeat Oyster Roast was canceled. For financial reasons a choice had to be made between sponsorship of the annual luncheon given to Freshmen and the June Day luncheon for all visiting alumni. Decision was unanimous in favor of the latter. Some type of social affair for freshmen students held at an appropriate time after the orientation program was considered but did not reach a committee stage.

Graduate students will continue to receive guest invitations to the annual banquet. Tickets will be handled by the Alumni Office. It was pointed out that appropriate committees for Alumni Day had been appointed. The Honor Award Committee nominated Dr. Stanley Bradley, Class of 1938 to receive the award and his election was unanimous.

A successful reunion during the S.M.A. meeting in November was reported. Difficulty in securing a chairman and a local committee in Philadelphia for a reunion in March was reported.

Dr. Charles S. Ward and Dr. Moses Gellman were elected to Associate Membership.

Dr. Irvine H. Page, 3rd Pincoffs Lecturer in Medicine, receives plaque from Dr. Wm. S. Stone, Dean. L. to r.: Dr. Stone, Dr. Irvine H. Page, Dr. Maurice C. Pincoffs.



February 2, 1960

Dr. Cornbrooks presiding, with eight members present.

The financial report brought forth a lengthy discussion concerning means of keeping solvent through the remainder of the fiscal year.

The contemplated rennion during the Academy of General Practice meeting in Philadelphia in March was canceled due to inability to obtain anyone to assume the chairmanship. Report of progress made for a reunion in North Carolina in May and during the A.M.A. meeting in Miami Beach in June.

Dr. Franz, Chairman of Program Committee for Alumni Day, reported continuing progress. Much of the evening was spent in planning and fixing details for Alumni Day.

J. EMMETT QUEEN, M.D.
Secretary

On Married Medical Students

FROM the University of Maryland Student American Medical Association Newsletter, comes the following interesting excerpt:

"A questionnaire submitted to the class of 1959 shows that there is a distinct relationship between the marital status of the class and the parental income. It would appear that the lower the parental income, the higher the incidence of marriage among medical students. Whatever this may mean is, of course, not clear; however, where the father's income was less than \$5,000 only 21% were unmarried, while in the same class, the percentage of unmarried students rose to 37% when the paternal income rose to better than \$10,000 per year. The actual figures are as follows: Parental income \$5,000 (26% of students married); within incomes of \$7,500 to \$10,000 (16% married). The average for the income group below \$10,000 was 21%, the same as for that below \$5,000. No definite analysis is proposed."

MEET THE EMERITI

1. Dr. Thomas R. Chambers

By

C. GARDNER WARNER, M.D.



DR. THOMAS RODNEY CHAMBERS was born in Baltimore, Maryland in 1885. He is the middle of three generations of surgeons in Baltimore City. His father was an Eastern shoreman, raised in the neighborhood of Mardella, Maryland. The elder Dr. Chambers taught school for several years to raise funds for a medical education at the College of Physicians and Surgeons in Baltimore and later became the Surgical Chief at that institution. Dr. Thomas Chambers' son, John, is the third generation carrying on the surgical tradition.

Young Thomas obtained his elementary education at the Zion Lutheran School and later attended Dikeman Preparatory School where he graduated about 1902. He had his mind set on medicine early, with the expectation of following in his father's footsteps in surgery. A gunning accident at age 13 resulted in the loss of parts of several fingers on his left hand. This did not deter him from his chosen profession of surgery, but only made him more right handed. He matriculated at Hopkins Medical School in 1902 and spent several profitable summers working in the Baltimore City Health Department in Bacteriology under Dr. Royal Stokes.

After graduation from Johns Hopkins in 1906, Dr. Chambers spent two years in residency training in surgery under Dr. Joseph Bloodgood at St. Agnes Hospital. He had worked in the Surgical

and Surgical Pathology Departments at Hopkins as an extern in his junior and senior years and had an intimate association with Dr. Bloodgood. After this active period of surgical training and experience, Dr. Chambers associated himself both at his Alma Mater, Johns Hopkins, in the surgical out-patient department, and at Mercy Hospital and the College of Physicians and Surgeons, where his father was the Chief Surgeon. He soon became actively engaged in teaching medical students at both institutions. From 1912 to 1917 he spent as much as 28 hours a week in teaching. About this time he became interested in Traumatic Surgery and became Surgeon to the Maryland Casualty Company in compensation work.

Early in 1917 he volunteered his service in World War I, and was sent to Fort Oglethorpe, Georgia, as a First Lieutenant. This was an officers training center and because of his teaching ability and experience he was held there for 16 months; he was finally assigned as a Casualty Clearing Station Surgeon and sent to France. In the few remaining months before the end of World War I he operated on 996 cases. On his return, Dr. Chambers reassociated himself with Hopkins, devoting his activities to teaching in the Rectal Clinic with Dr. Harvey Stone. The College of Physicians and Surgeons had amalgamated with the University of Maryland just before the

War. He continued his teaching activities at this institution as Associate Professor of Clinical Surgery.

In World War II he was turned down for active duty because of partial disability from arthritis, but served a day a week on the Examining and Advisory Board at the Fifth Regiment Armory. Dr. Chambers was president of the Medical and Chirurgical Faculty in 1947 and has served on the State Board of Medical Licensure as an examiner in Surgery. He is a member of the American College of Surgeons and a Diplomat of the American Board of Surgery.

In recent years Dr. Chambers has eased out of the teaching programs at both Hopkins and the University of Maryland but still maintains an active compensation and private practice at 18 W. Franklin St. He shares offices with his son, John.

Dr. Chambers has been twice married but has had only one mother-in-law. About 1911 he married Mary Sisson, the mother of his son, Dr. John Cham-

bers. She died in her early thirties, just after his return from World War I. He then married his sister-in-law, Martha Sisson, and has two daughters by this marriage. He has eight grandchildren. Dr. and Mrs. Chambers live quietly and comfortably at 600 Somerset Road. His main interests and hobbies aside from surgery are sports, bridge, and reading. We salute Dr. Thomas Chambers and wish him well in his semi-retirement.

Alumni News Solicited by Bulletin

Alumni urged to use alumni report form at end of Bulletin

THE editorial staff of the BULLETIN again reminds alumni that news concerning their professional activities or news concerning other alumni is most welcome and will be published promptly. With every edition of the BULLETIN a convenient form is published toward the end of the alumni section. You are urged to avail yourself of this form in keeping your alumni journal adequately supplied with important professional news.

CLASS NOTES

B.M.C. 1893

William H. Pound of 1632 Williamsbridge Road, Westchester, N. Y., died on September 15, 1959. Dr. Pound was 92.

P & S 1898

Ira Clay Hicks of 1102 Fifth Avenue, Huntington, W. Va., died recently.

Class of 1898

Luther C. Stirely of New Windsor, Md., died recently.

B. M. C. 1899

Henry Antonio Rosa of 432 Columbia Street, Fall River, Mass., died on September 19, 1959. Dr. Rosa was 84.

P & S 1904

George H. Reinhardt of 1160 Sylvia Road, Cleveland Heights, Ohio, died on October 4, 1959, following a cerebral hemorrhage. Dr. Reinhardt was 79.

Class of 1904

M. W. Aaronson of 414 North Camden, Beverly Hills, Calif., recently met with a serious accident and has retired from active practice.

Perry B. Goodwin of 1914 North Prospect Road, Peoria, Ill., died January 1, 1960.

Class of 1906

Thomas M. Chaney of Bristol, Md., died December 29, 1959.

P & S 1908

Jacob Fisher of 3422 Belair Road, Baltimore 13, Md., died recently.

Class of 1909



Frederick Henry Vinup, Brigadier General, Maryland National Guard, retired, organizer and for almost two decades commander of the 104th Medical Regiment, died at his home, Gibson Island, Maryland, Sunday morning, January 3, 1960.

General Vinup was born October 6, 1885 at Parkersburg, West Virginia. His father, Charles R. Vinup, was descended from French Huguenot stock. His mother, Dora Geisz Vinup, was of German ancestry.

General Vinup was graduated from the School of Medicine, University of Maryland, in the class of 1909. His pre-medical education was obtained at a preparatory institution, the Deichmann School, in Baltimore. Following his graduation in medicine he immediately entered upon a program and period of training, serving first on the house staff of Bay View Hospital (1909-10) and then Eudowood Sanatorium (1910-11).

It should be noted that he had been selected and served as a student house officer in the University Hospital during his senior year in medical school.

That he might fit himself for general practice the years 1911-13 were spent on the house staff of Robert Garrett Hospital for Children. In 1912 he opened an office in the vicinity of the hospital and devoted all possible spare time to a budding general practice. From this beginning his interest in the practice of medicine progressed with steadfast devotion.

Early in his career he noted the need for readily available medical service in industry. That conviction led to the organization of clinics in Baltimore's industrial neighborhoods, serviced by a group of associates whose duty assignments assured emergency service being constantly available at the plant, an entirely new concept in industrial medicine in Baltimore.

In this group his professional interest was centered in X-ray work, a specialty developed through training supervised by Dr. Frederick Baetjer and experience as head of the department in one of the busy hospitals in the city.

Another facet of his professional interest was expressed through service as Medical Director of the Monumental Life Insurance Company, an appointment accepted in 1924 and continuing until retirement in 1958. He became a member of its Board of Directors in 1928 and was active in that capacity until removed by death.

There was a ten year period in his life (1912-1922) during which much time was devoted to public health as a member of the Baltimore City Health Department. He also found time to make a contribution to civic welfare having served as President of the Board of

Police Examiners of Baltimore City from 1922 to 1935 and as a member of the Board of Welfare from 1927 to 1935.

Record of the military career of General Vinup is impressive. His service began in 1912 when commissioned 1st Lieut., Medical Corps, Maryland National Guard and assigned to the 5th Maryland Infantry for duty. He saw service on the Mexican border in 1916 and was again mustered into federal service in April 1917 to serve with distinction through World War I.

In combat he was Director of Ambulance Companies, elements of the 104th Sanitary Train, the collection and evacuation unit of the 29th Division. As a result of experience gained in World War I, the Medical Department of the Army was convinced that methods of rendering medical service in the field had to be completely revised, a concept the then Major Vinup wholeheartedly embraced. As a result of this deep seated conviction, he accepted the invitation to organize and command a unit of the Maryland National Guard based upon the new concept and thus the 104th Medical Regiment was born. Military service at that time was not a popular subject to approach, a fact which made recruitment of personnel most difficult. A less energetic and dedicated man would probably have failed but qualities of leadership, resolution, and friendliness were not to be denied. Federal recognition was extended elements of the regiment as rapidly as recruitment and supply requirements were met. In 1923 this far seeing commander arranged for the two weeks encampment training period to be spent on the post of the recently established Medical Service School at Carlisle, Pa. Accordingly in 1924 a close working relationship began which lasted

a decade, his regiment profiting materially by the advantages made available through school faculty instruction and supervision. It would be difficult indeed to assess the value of these training experiences in terms of service rendered in World War II. The records reveal that it was reflected in every theatre of operations through personnel who either left the regiment in training cadres, by special assignment, or as graduates of officer training schools commissioned in various branches of the service. That an estimate of the true contribution made to military medicine by Fred Vinup must remain among the imponderables cannot be disputed.

General Vinup was a member of a number of organizations, civic, social, and professional, among them: the Baltimore City Medical Society, the Medical & Chirurgical Faculty of Maryland, the American Medical Association, the Radiological Society of America, the American Industrial Association of Physicians and Surgeons, the Association of Military Surgeons of the United States, of which he was president in 1928.

His social affiliations included: the Lister Society, the Gibson Island Club and Yacht Squadron, the Maryland Club, Baltimore Country Club, Merchants Club, Annapolis Yacht Club, the Propeller Club of Baltimore, the Army and Navy Club in Washington. His diversified interests also led to membership in St. George's Society, Maryland Historical Society, Maryland Ornithological Society, and the Maryland Academy of Sciences.

He was a member of St. David's Episcopal Church and a Mason with membership in the Scottish Rite bodies and Boumi Temple of the Shrine.

The gift of understanding and friendliness was a readily recognized quality

reflected in the character and personality of Fred Vinup. His kindness and sincerity, his boundless energy and moral courage earned for him widespread respect and admiration. He was courtly in bearing, cultured, affable and agreeable, and yet capable of dealing out deserved rebuke without restraint.

General Vinup was married to Marie Belle Murchison in 1913 who bore him two daughters. She met a tragic death in 1939 in a motor accident while touring Florida with her husband. He remarried in 1942 taking to wife Miss Ottilee Margaret Heil of Baltimore who survives him. Additional survivors are two daughters: Mrs. Paul H. Myers and Mrs. Chauncey Brooks, Jr. and five grandchildren. Funeral services were held at a private chapel in Baltimore and he was buried with military honors in Druid Ridge Cemetery.

Carroll Augustus Davis of Logan, W. Va., died recently.

P & S 1910

Gregory L. Higgins of Avon, New Jersey, died recently.

William J. Froitzheim of 2305 8th Avenue, W., Bradenton, Fla., died in May 1958.

Class of 1910

Michael J. McDermott died in Baltimore on December 2, 1959. Dr. McDermott was 71.

A native of Waterbury, Conn., Dr. McDermott had practiced for more than 20 years in Baltimore, following 25 years of medical practice in Allegany County, Maryland.

James A. Thompson of Fountain Inn, S. C., died on September 25, 1959. Dr. Thompson was 72.

Class of 1912

John A. Skladowsky, district health officer of the Southeastern Health District of Baltimore City, retired February 24, 1960.

A native of Baltimore, and a graduate of the Baltimore City College in the Class of 1908, Dr. Skladowsky has been associated with the Baltimore City Health Department for over 40 years.

In a tribute to his long and devoted service, Dr. Huntington Williams, Commissioner of Health, stated, "As a loyal member of East Baltimore Medical Society, he performed a unique service in enhancing the relations between the city Health Department and the physicians practicing in the Southeastern district of the city.

"Month by month he was host at the society's meetings held in the health district building, and he served his medical colleagues as a consultant in public health and related matters."

In his new retirement, Dr. Skladowsky intends to do some fishing in the Magdohy River and on the Eastern Shore, and also to to "catch up on my reading." Dr. Skladowsky lives at 514 Stamford Road in Baltimore.

Everett A. Livingston of Gibson, N. C., died recently.

J. Edward Hubbard, a retired dermatologist, formerly of Hinton and Huntington, W. Va., died on February 23 at his home, 3401 Greenway. Dr. Hubbard, who was 71, had been ill for about a year.

A native of Harmony, in Caroline County, Maryland, he attended St. John's College and later graduated from the University of Maryland. For many years he was a member of the American Academy of Physicians, The American Academy of Dermatologists, the Amer-

ican College of Physicians, and the International Academy of Medicine. He was also a member of the Southern Medical Association. During World War I he served in the United States Army as a captain and saw service in France.

B. M. C. 1913

John White Vinton Clift of 5010 Greenleaf Road, Baltimore, Md., died recently.

Class of 1913

Charles Reid Edwards has been recently honored through the establishment of an endowment fund. Announcement of the establishment of the fund was recently made at a luncheon held in his honor on February 8. Because of Dr. Edwards' special interest in the graduate training of young physicians, the fund will be used largely in the support of clinical research in the Department of Surgery.

Class of 1916

Manuel Garcia de Quevedo of Anasco, P. R., recently died.

Class of 1917

Louis A. M. Krause was recently named a member of the Baltimore City College Hall of Fame. Dr. Krause, who is Chief of the Medical Service at the Lutheran Hospital of Maryland, and Professor of Clinical Medicine at the University, is well-known as scholar, lecturer, and physician.

James Holmes of 796 Sumner Ave., Springfield, Mass., died December 21, 1959.

Class of 1925

Wilbur Elton Gattens of Frostburg, Md., died December 14, 1959.

Harold H. Fischman of 25 Shanley Ave., Newark, N. J., has been appointed as Attending in Medicine at the Martland Medical Center, Newark, N. J. Dr. Fischman is a Diplomate of the American Board of Internal Medicine. He is also an Associate Medical Attending at the Newark Beth Israel Hospital.

Class of 1926

H. Elias Diamond has been recently appointed Visiting Pediatrician on the Pediatric Allergy Service of the Fordham Hospital, Bronx, N. Y. Dr. Diamond has been active as a member of the medical board of the Fordham Hospital and lives at 1749 Grand Concourse, New York.

Class of 1929

Jacob H. Conn was recently certified a Diplomate of the American Board of Child Psychiatry, as well as receiving his certification by the American Board of Medical Hypnosis. Dr. Conn recently spoke at the annual meeting of the Postgraduate Assembly of the New York Society of Anesthesiology on December 11, 1959. He has been recently nominated a member of the New York Academy of Sciences.

Isidore Irving Neistadt of 114 Dubois Avenue, Valley Stream, N. Y., died on November 30, 1959, at the age of 54.

Class of 1932

Thomas S. Saunders has recently been promoted to Clinical Professor of Dermatology at the University of Oregon Medical School, Portland, Ore. Dr. Saunders lives at 511 S.W. Tenth Avenue, Portland 5, Ore.

Henry R. Pear of Baltimore died October 13, 1959. He was 56.

Class of 1933



L. Eugene Daily is currently vice president of the Eaton Laboratories, Norwich, N. Y.

Eugene's career is a very interesting and unique one, beginning with an internship at the U. S. Naval Hospital in Philadelphia during the tense and developmental years just preceding the second World War.

Already a seasoned naval medical officer, Daily's career in the services was a varied one, including a postgraduate course in deep sea diving, submarine medicine, two years in basic research, varied duties at sea, and a tour of duty as a senior medical officer aboard the U. S. S. Boxer, one of the navy's largest aircraft carriers. Later, he served as staff medical officer to the admiral of the task force.

Dr. Daily also took a post-graduate course in flight training and aviation medicine and is a qualified pilot, as well as a specialist in aviation medicine. During his career in the navy, he travelled extensively through many countries of the world. At the end of World War II he resigned from the navy with the rank of commander.

During his military service, he had numerous contacts with pharmaceutical companies. He selected the Norwich Pharmacal Company and became its

medical director in 1946, at which time he was also elected to the Board of Directors of the Eaton Laboratories. In October 1953, he was elected executive vice-president of Eaton, ultimately becoming vice-president of the Norwich Pharmacal Company and a member of the Board of Directors of this as well as the Eaton Inter-American Board of Directors.

Among the many medical societies in which he holds membership are included the Association of Military Surgeons, the Aero Medical Association, and the World Medical Association. He is a member of the Department of Defense Advisory Panel on Medical Sciences and is the only representative of the pharmaceutical industry on this panel. For the past ten years, he has served as a member of the Board of Directors of the Chenango Memorial Hospital, and has served also as vice-president. Since February 1956, he has been President of the Board of Directors of this hospital. He is a member of the University Club of New York City and the Elks. Dr. Daily has made several basic contributions to medical literature, including a study on the effect of radar on human physiology and other restricted data.

Class of 1937



William B. Long has been recently named Director of a newly created Med-

ical Department of the Symington Wayne Corporation of Salisbury, Md., manufacturer of gasoline pumps and service station equipment, as well as railroad equipment.

In his new post, Dr. Long will direct the medical services of all divisions of the corporation, the principal office of which is in Salisbury, with subsidiaries in various parts of the United States. Dr. Long is at present Chief Surgeon of the Peninsula General Hospital in Salisbury, where he has practiced general surgery for a number of years.

Class of 1938

John M. Scott has been recently named Assistant Medical Director of the Blue Cross and Blue Shield plans in the State of Maryland. Dr. Scott will serve on a part-time schedule and will be associated with Dr. Carl F. Mech, Medical Director of the two plans. Dr. Scott's services will include the review of claims and cases requiring medical knowledge and judgment, advice on the medical aspects of underwriting, and the determination of claims involving possible pre-existing conditions and will also be concerned with the so-called "diagnostic" admission problems. Dr. Scott is an internist, having received his training at the Maryland General Hospital.

Class of 1949

Jordan M. Scher of 679 North Michigan Avenue, Chicago 11, Ill., writes that he has been very active in the practice of psychiatry since he left the University of Maryland Psychiatric Institute in 1955.

Following his training here, he worked at the National Institute of Mental Health from 1955 until 1957, and then

as coordinator in psychiatry at the Northwestern University School of Medicine, where he held the rank of assistant professor of psychiatry. Dr. Scher is the author of a large number of scientific papers relating to neurophysiological and psychiatric problems. At present he is actively affiliated with the Michael Reese Hospital in Chicago.

Class of 1950

Hunter S. Neal, recently certified by the American Board of Surgery, is also a Diplomate of the American Board of Thoracic Surgery, and is active on the staffs of both the Lankenau Hospital and the Jefferson Medical College, where he serves as instructor in surgery. Dr. Neal has his office at 406 Lankenau Medical Building, Philadelphia 31, Pa.

Class of 1951

Eugene Braiden Rex has been recently certified by the American Board of Otolaryngology. Dr. Rex, whose office is located at 102 Lankenau Medical Building, Philadelphia 31, Pa., is also active on the staff of the Lankenau Hospital, the Bryn Mawr Hospital, and the Graduate Hospital of the University of Pennsylvania.

William G. Esmond has been recently awarded a grant of more than \$20,000 from the National Institutes of Health for continued improvement of a heart-lung apparatus for use in open heart surgery.

The basic apparatus, under development since 1958 in collaboration with Dr. R. Adams Cowley, chief of the Thoracic Surgery Division of the Department of Surgery, has shown considerable progress in its evolution.

Class of 1953

John V. Clift has announced the opening of his office for the practice of General Surgery at 415-16 Medical Arts Building, Read and Cathedral Streets in Baltimore, Md.

Leonard B. Glick has received from the N.I.H. a post doctoral grant to continue his anthropological studies in New Guinea (South East Asia). He plans to write a book on primitive medicine after his work is completed.

Class of 1954

Raymond B. Keefe of 525 Windsor Ave., Windsor, Conn., has been recently certified in Pediatrics by the American Board of Pediatrics.

Class of 1955

Albert L. Mooney, who is currently engaged in investigative work in Durham, N. C., represented his alma mater, Washington College, on the occasion of the inauguration of Dr. Wendell M. Patton as president of High Point College, High Point, N. C. Dr. Mooney was formerly Resident in Pathology at the Union Memorial Hospital in Baltimore. His North Carolina address is 1112 Alabama Avenue, Durham, N. C.

Class of 1956

George A. Sowell, who is serving as Resident in Obstetrics and Gynecology at the Medical College Hospitals, Charleston, S. C., has recently changed his address to 830 Etiwan St., Centerville, Charleston, S. C.

Class of 1957



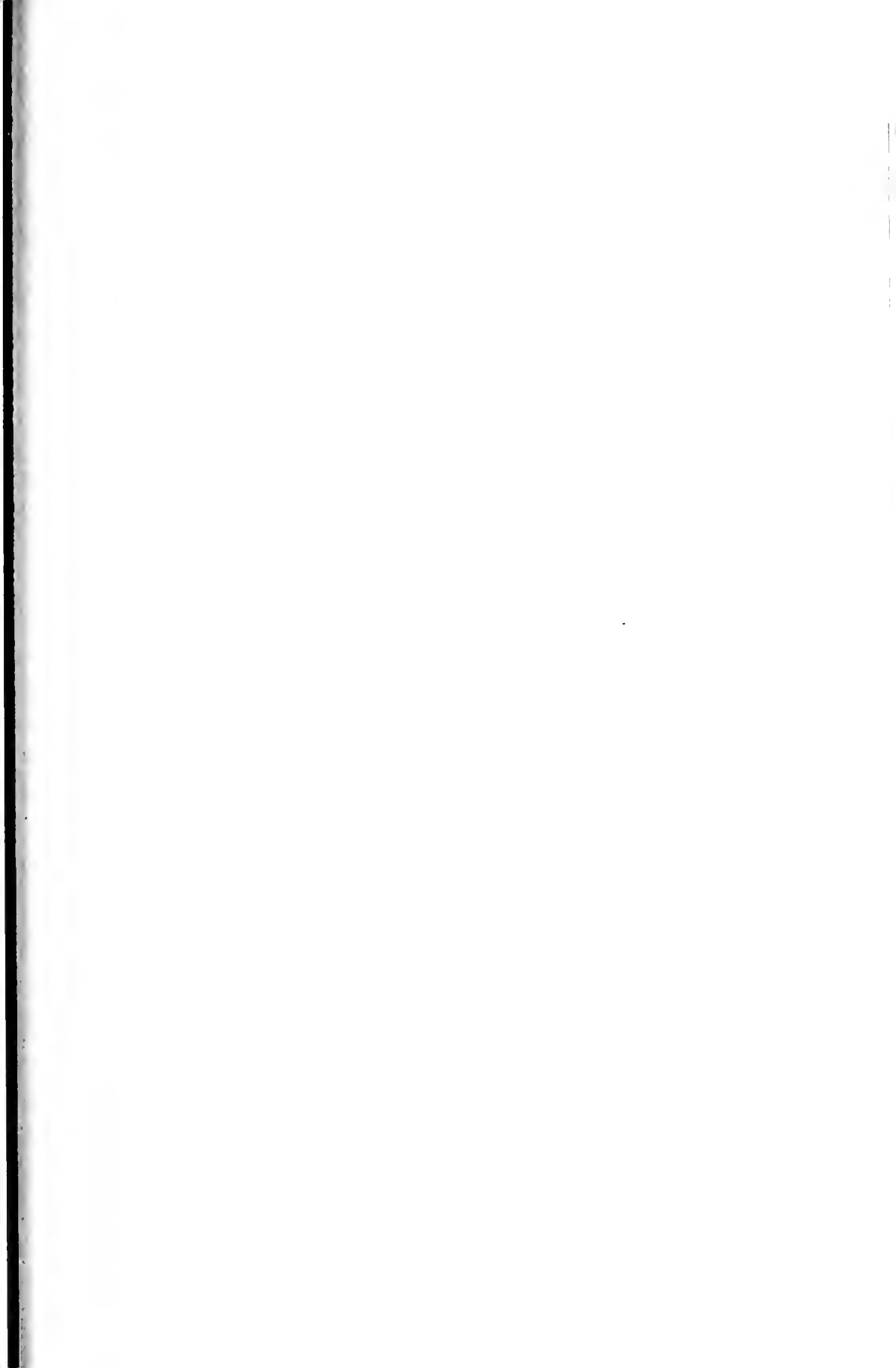
Col. John K. Daly, Post Commander of Ft. Hamilton (left), presents commendation ribbon with medal pendant to Capt. Harvey I. Wilner, Post Dispensary Doctor, for meritorious service in Korea during the period October 1, 1958 to November 6, 1959.

Captain Harvey I. Wilner has been recently awarded the Army Commendation Ribbon with Medal Pendant for meritorious service in Korea during the period October 1958 to November 1959. Captain Wilner is a Medical Officer at the Fort Hamilton U. S. Army Dispensary where he is engaged in the practice of General Medicine.

A native of New York, and a graduate of the University of Vermont in the Class of 1953, Dr. Wilner completed his medical internship at the Kings County Hospital in Brooklyn, N. Y.

While he was Medical Officer, Detachment L, Korean Military Advisory Group and also Medical Advisor to the "V" Republic of Korea Corps and subordinate units, he demonstrated vast professional knowledge and diligence in the performance of his dual assignment in the Army's medical field. Further accomplishments included the establishment of four Divisional and two Mobile Army Surgical Hospital laboratories. During his tour of duty in Korea, he greatly improved the laboratory functions of the 3d Field Hospital.

Upon completion of his military service in August 1960, Captain Wilner will begin a Fellowship in Medicine at the Lahey Clinic in Boston. He is the son of Dr. Joseph Walter and Mrs. Wilner of 1248 White Plains Road, Bronx, N. Y.





MEDICAL SCHOOL SECTION



Dean's Letter

Dear Friends of the School of Medicine:

The noblest aspects of man's character are reached when he is able to dissociate himself from selfish interest and think and act for the common good.

Medical education must concentrate to a large extent on the education of the individual to develop competence in medical practice. This education can be used in a way to bring maximum benefits to the individual with little consideration for many in society that need assistance and are unable to care for themselves.

The physician's obligation to society and to the improvement of medical practice through education and research are basic concepts of the Hippocratic Oath. Medical alumni organizations are one of the more important groups that physicians have developed for objective evaluations of medical education, and to assist those charged with conducting the programs in the medical schools and hospitals.

For alumni groups to reflect more than the thinking of a few individuals, it is important that they seek to engage the interest and participation in alumni activities of every graduate.

At graduation time, it is of greatest importance that the senior class be indoctrinated and welcomed into the alumni activities and organizations. Human progress is dependent upon the need for living as individuals in a society.

WILLIAM S. STONE, M.D.
Dean

Faculty

NOTES

PROFESSOR DOCTOR HEINRICH VON HAYEK, director of the Anatomical Institute of the University of Vienna, was a recent visitor at the School of Medicine.

DR. FERNANDO G. BLOEDORN, Associate Professor of Radiology and Head of the Division of Radiotherapy, recently presented a paper concerning the treatment of lung cancer at the annual meeting of the American Radium Society held at San Juan, Puerto Rico, March 17-19, 1960. The treatment using intense Cobalt radiation prior to surgery was developed in collaboration with Dr. R. Adams Cowley, Associate Professor of Surgery and Chief of the Division of Thoracic Surgery.

DR. ROBERT G. GRENELL, Professor of Neurobiology in the School of Medicine, recently organized a symposium entitled "Progress in Neurobiology," held in Boston, June 12-14, 1960. Dr. Grenell will also edit the proceedings which will be published under the auspices of the National Institute of Neurological Diseases and Blindness, with supplemental aid from the Upjohn Company. Dr. Jerome K. Merlis of the School of Medicine also participated in the symposium.

DR. CHARLES REID EDWARDS, Professor of Surgery, was a recent speaker at a symposium entitled "The Doctor in the Hospital Environment," held at the Doctors' Hospital in Baltimore on May 12, 1960. Dr. Edwards spoke on "The Problem of Controlling Hospital Admissions under Insurance Programs."

DR. VERNON E. KRAHL, Associate Professor of Anatomy, has recently translated into English the volume *Die Menschliche Lunge* written by Heinrich

von Hayek. The English edition entitled *The Human Lung* is intended as a reference work for anatomists, clinicians, and specialists concerned with pulmonary diseases. Dr. Krahl has added a new section featuring the electron microscopy of the lung.

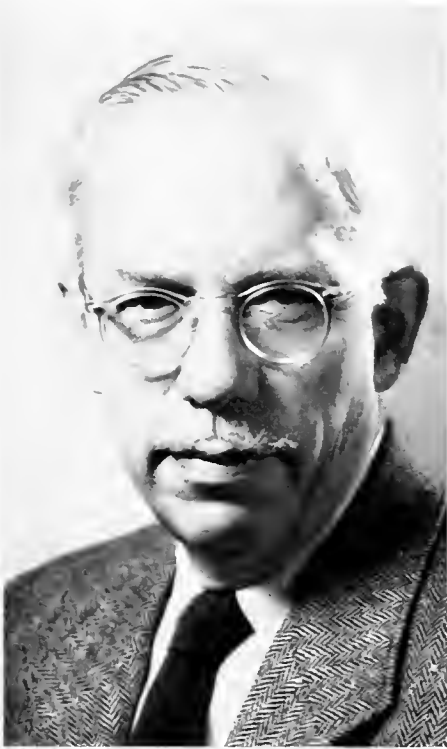
DR. RAYMOND M. BURGISON, Associate Professor of Pharmacology, has been recently awarded a grant of \$29,700 from the United States Public Health Service for synthesis of potential anticancer agents. Dr. Burgison, who has already synthesized more than 400 potential anticarcinogenic agents, will thus be enabled to continue his extensive research into this important field. A number of Dr. Burgison's compounds have shown sufficient activity to warrant continued study.

DR. JOHN C. KRANTZ, JR., Professor of Pharmacology, was honored by the International Anesthesia Research Society at its 34th Congress held the week of April 15 in Washington, D. C. A scroll, presented to Dr. Krantz by Dr. Harold R. Griffith, Chairman of the Society's Board of Trustees, cited him for "meritorious achievement in research, teaching, and authorship."

Dr. John C. Krantz, Jr., also received a special citation presented to him by the United States Pharmacopoeial Convention, held in Washington, D. C., March 28-30, 1960. At this meeting, Dr. Krantz was also elected for a fourth ten-year term as a member of the Pharmacopoeia Revision Committee.

DR. VERNON E. KRAHL, Associate Professor of Anatomy, has been invited to teach a summer course in human anatomy at the Medical College of South Carolina in Charleston.

The course, recently established by Dr. Melvin H. Knisely, has been largely attended by collegiate professors and those interested in comparative anatomy.



Dr. D. C. Smith Honored by Undergraduate Student Council

DR. DIETRICH C. SMITH, Associate Dean in Charge of Student Affairs, was recently honored by the Student Council at a dinner meeting held at a local Baltimore restaurant. Dr. Smith was presented a plaque inscribed as follows:

"Dietrich C. Smith, Ph.D., Educator, Administrator, and Friend, Presented by the Students of the University of Maryland Medical School in recognition of his kind, devoted and unselfish service, 23 day of April, 1960."

Mr. John P. Light, President of the Student Council, presented the plaque to Dr. Smith and in part said: "All the members of the student body, especially those who take an active part in student activities, have always found it a pleasure to work with the Dean in charge of

Student Affairs. Your kind and thoughtful guidance has led us all successfully over many obstacles. Your desire to permit the students to make their own decisions related to student affairs has proven to be very rewarding for us, though undoubtedly entailing more work for you."

Dr. Smith, who has been active in the Department of Physiology, has served as Associate Dean in charge of Student Affairs since 1955. He also holds the rank of Professor of Physiology.

Department of Anatomy Participates in National Anatomy Meetings

MEMBERS of the Department of Anatomy were active in the presentation of papers at the meeting of the International Anatomical Congress held the week of April 11, 1960, in New York.

Dr. Frank H. J. Figge, Professor of Anatomy, presented a paper relating to the biological and pathological variations seen in a new strain of mice susceptible to a wide variety of diseases and characterized by extreme obesity. Dr. Zenas A. McDonald presented an additional paper relating to the high sensitivity to the obese mice to drugs producing hepatic carcinoma.

Other work reported to the Anatomical Congress included a review of staining techniques developed by the Department's neuro-anatomists, Drs. Walle J. Nauta, Henricus G. J. M. Kuypers, and Maria Szwedbart.

Dr. Vernon E. Krahle described the differences in the gross and microscopic structure of the lungs of various animals (mouse, rat, hamster, guinea pig, rabbit, cat, dog, sheep, monkey, and man). Dr. Krahle emphasized the important differences particularly in reference to the

selection of proper animals for experimental studies of lung disease.

Drs. Theodore F. Leveque and Gerald A. Hofkin found a hitherto undescribed material in the hypothalamus of the rat.

Drs. Elwyn A. Saunders and Peter S. MacMurray in studying the characteristics of blood flow found that the relative viscosity of blood increases as the pressure producing flow decreases and the relative viscosity decreases as the capillary tube diameter decreases. This was a summary of a more extensive paper.

Department of Preventive Medicine and Rehabilitation

DR. GEORGE ENTWISLE, Professor of Preventive Medicine and Rehabilitation, reports the addition of another geographic full-time member to the Department. On January 15, 1960, Dr. Maureen Henderson was appointed to the Faculty of the University. Dr. Henderson was formerly Clinical Epidemiologist with the Medical Research Council in England, receiving her medical training at Durham University and subsequently a Diploma in Public Health from the same University.

For awhile she served as House Officer at Royal Victoria Infirmary, Newcastle-on-Tyne, and was Junior Hospital Medical Officer at Knightwick Sanatorium in Worcester. In 1956 she received an Anna Fuller Fellowship in Epidemiology of Cancer and worked at St. Bartholomew's Hospital in London, under the direction of Dr. Ernest Kennaway. In January 1957 she was appointed Clinical Epidemiologist of the Scientific Staff of the Medical Research Council and has since engaged in research at St. Bartholomew's in London on the subject of atmospheric pollution.

Plan for a Home Care Project will

materialize beginning in June 1960. Originally initiated from a study by the Home Care Committee of the Heart Association of Maryland, the plans culminated in a grant request which was submitted to the Heart Association of Maryland, the American Heart Association, and the Office of Vocational Rehabilitation. These three agencies will jointly sponsor the Home Care Project over a three-year period at the cost of \$32,000 per year. A small group of patients with cardiovascular disease selected from the wards of the University Hospital will be the object of the intense study. Dr. Aubrey Richardson, Assistant Professor of Preventive Medicine, was Chairman of the Study Committee.

In July, Dr. Wilson M. Wing, Western Health District (Baltimore) Officer, will join the Department as an Instructor, part-time. Dr. George M. Ramapuram will be appointed as Research Instructor, part-time, working exclusively on the Home Care Project.

Department of Pediatrics, 9th Annual Pediatric Seminar

As has been customary for almost a decade, the annual pediatric seminar was held on April 3, 1960, at Gordon Wilson Hall, University Hospital. Dr. Donald D. Matson of the faculty of Harvard University discussed "Surgical Treatment of Congenital Anomalies Involving the Nervous System." Dr. Clement A. Smith discussed "Respiratory Distress Syndrome."

Dr. William B. Kiesewetter, Professor of Pediatric Surgery, at the University of Pittsburgh, spoke on "Gastrointestinal Bleeding." Dr. L. Emmett Holt, Jr., Professor of Pediatrics at New York University College of Medicine, spoke on "The Management of States of Intestinal Intolerance." The program was in charge

of Drs. J. Edmund Bradley, Robert W. Buxton, Samuel P. Bessman, and Robert M. N. Crosby. Dr. Ray Hepner, Professor of Pediatrics, also assisted in the arrangements. Members of the committee on arrangements included Drs. Stuart H. Walker, Garrett E. Deane, and Melchijah Spragins.

Department of Psychiatry Receives Large Grant

DR. EUGENE B. BRODY, Professor of Psychiatry and Director of the Psychiatric Institute, has announced that the School of Medicine has been awarded a grant of \$125,000 from the National Institute of Mental Health to support the teaching of medical students and graduate training of psychiatrists. The grant will be used to re-evaluate the curriculum, improve teaching methods, support able teachers, and establish techniques for selecting students capable of advanced work. The School of Medicine is one of the few medical schools in the country to emphasize psychiatry in all four years of instruction.

It is anticipated that the present curriculum will be expanded to include behavioral sciences such as the psychology of learning, experimental psychology, sociology, anthropology, and study of growth and development of children, particularly those affected by emotional disorders.

Department of Radiology

AT A LUNCHEON held on April 25, the Department of Radiology announced the establishment of the Henry J. Walton Distinguished Lectureship in Radiology at the University of Maryland School of Medicine. Dr. Walton, Professor Emeritus of Radiology at the School of Medicine, provided funds for the establishment of the lectureship.

Following the luncheon, a portrait of Dr. Walton, painted by H. A. Brownson, was unveiled in the Department of Radiology. This portrait was presented by two of Dr. Walton's associates, Drs. Walter L. Kilby and Charles N. Davidson.

Following his retirement in 1941 as head of the Department of Radiology, Dr. Walton has given the University what may be the best collection of historic X-ray tubes known in the United States. These 30 tubes, many of them dating back to within months of Roentgen's discovery of the rays which bear his name, are now on display in the second floor of the University Hospital. Dr. Walton is a graduate of the Baltimore Medical College in the Class of 1906. Shortly thereafter, he studied among some of the pioneer radiologists in Europe and in the United States, establishing the Department of Roentgenology in the University Hospital in 1911. This was the first definitely organized department so recognized in the City of Baltimore. In the 30 years in which he was associated with the University Hospital he vastly improved the profession of radiology and increased the facilities of his department. Dr. Walton participated in the formation of the American College of Radiology in 1923 and served as its president in 1940. Dr. Walton was the pioneer in roentgen encephalometry and pelvimetry, publishing some of the most important papers in this subject during the 1930's.

Cancer Researchers Honored

AMONG the 23 scientists recently honored by the Maryland Division of the American Cancer Society are Drs. Fernando G. Bloedorn, Frank H. J. Figge, Edward J. Herbst, Lester Kiefer, and John D. Young, Jr., all of the School of Medicine.

Mr. Louis Jager, Department of Pathology, Honored for Long Service

AT CEREMONIES ON March 2, 1960, Governor Millard Tawes presented to a number of veteran State employees certificates and gold watches in recognition of long and faithful service to the State of Maryland.

Mr. Louis Jager, Senior Technologist in the Department of Pathology, was the recipient of a certificate for 40 years of continued service and received from Governor Tawes a gold watch.

Among those who joined in paying tribute to Mr. Jager were Mr. George W. Fogg, Director of Personnel of the University of Maryland, and Dr. Harlan I. Firminger, Professor of Pathology.

Student Union Opens

AFTER approximately a year in the process of construction, the new \$1,500,000 Student Union Building for the Baltimore Campus recently opened. The building will house 195 students in 99 rooms and will also include a book store, instrument store, game room, barber shop, cafeteria, fountain lounge, roof terrace for dancing, meeting rooms, and lounges. Mr. Gerald Ruttman, director of the Union, was formerly director of the medical residence hall at The Johns Hopkins University. He is a graduate of Michigan State University where he specialized in institutional management.

Phi Delta Epsilon Lecture, 1960

THE annual Aaron Brown Memorial Lecture of the Phi Delta Epsilon Fraternity was given by Dr. Monroe J. Romansky, Professor of Medicine, George Washington University School of Medicine, Washington, D. C. Dr. Romansky spoke on "Basic Principles in the Use of



Chemotherapeutic Agents," the lecture being delivered on Monday, April 4, 1960, in Gordon Wilson Hall.

Dr. Rupert E. Billingham Presents Third Band Lecture

DR. RUPERT E. BILLINGHAM, Professor of Zoology of the Wistar Institute, Philadelphia, was the third annual Alice Messinger Band lecturer speaking on the subject "Tissue Transplantation Immunology." The lecture was held on March 24, 1960, Gordon Wilson Hall, University Hospital.

Heads County Board

J. MORRIS REESE has been named President of the Baltimore County Medical Society. Dr. Reese has also been appointed by Dr. William H. F. Warthen, Health Commissioner of Baltimore County, as Chairman of the Advisory Council to the Baltimore County Health Department. Dr. Reese has also been active in the Southern Medical Association as Chairman of the Committee for Scientific Arrangements, a post he will hold for the next five years.

II. The Department of Microbiology

BETH WILSON

THE PAST DECADE has seen many changes in the field of microbiology and these changes are reflected in the reorientation of the medical school's Department of Microbiology that has taken place since 1954, when Dr. Charles L. Wisseman, Jr., took over its direction.

As indicated by the change in name from bacteriology to microbiology, the department has broadened its scope to include not only study of bacteria, spirochetes, and fungi, but of viruses and rickettsiae as well.

The emphasis has also been shifted, to include not only a study of the organism itself but also study of the whole disease

process: how pathogenic organisms gain entry and overcome the host's defenses, and how they produce tissue damage.

The main teaching effort of the department goes into the sophomore course in medical microbiology and immunology. It is recognized that most students will eventually practice medicine and so the primary objective is to lay a firm foundation for the understanding of infectious diseases. But an attempt is also made to attract a few students to careers in research and teaching.

At the same time, students become familiar with new microbiological techniques and developments. For example,



Dr. Charles L. Wisseman, Jr., in his office at the fluorescence microscope.

they may inoculate eggs with viruses or rickettsiae and follow the course of the infection. They may grow tissue cultures for study of a variety of infections. They may conduct animal experiments to study antibody production or to follow the course of a louse-borne infection such as typhus.

Through cooperation with Dr. Harlan Firminger, the Department of Pathology teaches sophomore students the pathology of a given infection at the same time other aspects of the infection are being taught to the students in the Department of Microbiology. The two departments also cooperate in student research projects on microbiological problems in experimental pathology, which are sponsored by the Department of Pathology and carried out in Microbiology.

During the summer, some of the undergraduate medical students pursue research projects in the department with the aid of summer fellowships. Although the fellowships are primarily intended to familiarize the student with research methods, some of the resulting research has been of publishable quality as well.

A graduate training program is conducted for students who wish to make careers of microbiological research. This type of training is, of course, closely interdigitated with the departmental research programs.

The research and graduate training programs of the department have been strengthened in the past few years by a number of grants. Support for the current year totals nearly \$100,000. Two of the grants are from the U. S. Public Health Service—\$50,000 for graduate training in rickettsiology and virology and \$11,500 for a study of the fungi-producing candidiasis. The Army has also made two grants to the department—\$6,000 for study of the influence of

radiation in rickettsial disease and \$30,000 for development of attenuated living vaccines against dengue fever and other arthropod-borne virus diseases.

Dr. Wisseman has equipped the department to handle such research projects by expanding the laboratories, increasing the animal colony facilities for mice, guinea pigs, rats, rabbits, roosters, and monkeys, and adding deep freezes, an ultracentrifuge, a fluorescent microscope, radioactive isotope counters, an ethylene oxide sterilizer, facilities for growing viruses and rickettsiae in eggs, and tissue culture equipment. The department also has a part interest in the electron microscope in the anatomy department and in the analytical ultracentrifuge in the physiology department.

Six graduate students are doing their major work in microbiology this year—two candidates for a Master's degree and four for a Doctorate. Of these, one is on his second post-sophomore year in the department as part of the newly developed M.D.-Ph.D. program, and another holds a postdoctoral fellowship in microbiology.

A graduate course in medical mycology, initiated in 1957 by Dr. Andrew G. Smith, is being offered every other year and will be conducted for the third time in 1961. A new graduate course in virology and rickettsiology is being presented for the first time this year by Dr. Ollie R. Eylar, Dr. Wisseman, and others.

Opportunity for training such as this and for participation in the department's varied and challenging research program is attracting more graduate and post-graduate applicants than can be accepted.

The Army-supported virus project illustrates the broad nature of the research that is being conducted. Under Dr. Wisseman's over-all direction, the research team consists of Dr. Eylar, Dr.

Edward C. Rosenzweig, Bertram R. Harrington, John Hatgi, Frederick D. Chapple, and three graduate students. As a whole, the team is primarily concerned with immunological aspects of arthropod-borne virus infections in man.

One of the primary objectives in developing vaccines for protection against the dengue fever viruses. Experimental vaccines for type 1 dengue have been developed and studied in a variety of laboratory animals, including monkeys. Plans are now under way for their first trial in human subjects. Vaccine strains for type 2 dengue are under development but have not progressed quite as far.

Serological cross-reactions indicate that more than 40 arthropod-borne viruses are related to the dengue viruses. These include the viruses of yellow fever, several forms of encephalitis, and many other important causes of human disease. Because these cross-reactions may be of some importance in immunity, because they complicate the serological diagnosis of the diseases, and because they may play some role in determining the geographic distribution of the different virus strains, they have become the subject of special study in volunteers.

Besides conducting studies with volunteers in this country, Dr. Wisseman has made several trips to Japan to arrange for studies in Japanese volunteers, carried out in close collaboration with Japanese scientists at the Japanese National Institute of Health.

The distribution of arthropod-borne viruses and the incidence of resulting human infections are unreported for much of the world. In fact, many areas where denguelike disease occurred among Allied troops during World War II, such as New Guinea, Tropical Australia, and New Britain, are virtually unexplored. Through collaboration with Dr.



Dr. Andrew G. Smith working with strains of *Candida albicans* isolated from patients in the gynecology clinic.

Carleton Gajdusek of the National Institutes of Health, Dr. Wisseman has obtained a large collection of serum specimens from the indigenous population (mostly aborigines) of these areas. Testing of these specimens for virus antibodies has just begun but already a distinct geographical distribution is beginning to evolve.

In addition to these studies, the group in Dr. Eylar's laboratory is developing tissue culture techniques applicable to the investigation of arthropod-borne viruses. The group in Dr. Rosenzweig's laboratory is exploring basic mechanisms of immunity to arthropod-borne infections.



Irene B. Fabrikant inoculating eggs with the attenuated E strain of typhus fever for vaccine studies.

An important objective here, as in the rickettsial disease program to be described next, is to maintain a balanced research program so that the basic phenomena are adequately studied; these, in turn, lay the foundation for solution of the more practical problems at hand.

The rickettsial program is equally far-reaching. The group involved in this major research effort of the department includes Dr. William F. Myers, Dr. Martha E. Jordan, Mrs. Linda Engel, and two graduate students. Aspects of rickettsiology under study include:

1. The metabolism of the organism as grown in tissue culture, and chemical composition of the cell walls and nucleic acids.

2. The part that phagocytic cells play in the host's response to infection.

3. How rickettsiae produce their lethal effect, biochemically and physiologically.

4. The antigenic structure of rickettsiae, particularly in experimental vaccines being prepared from attenuated living strains of typhus fever.

5. The effect of whole-body irradiation on host susceptibility to the attenuated E strain of epidemic typhus (which has been recommended as the immunizing agent of choice for surviving civilians after nuclear attack).

Dr. Wisseman, as Director of the Commission on Rickettsial Diseases of the Armed Forces Epidemiological Board, is organizing and integrating development of the E strain of typhus vaccine in universities and governmental and commercial organizations. The Rickettsia Laboratory of the Department of Microbiology is participating in this work.

Research in bacterial cytology, which is being conducted by Dr. Smith, is centered around the localization and structure of the bacterial nucleus as revealed by the electron microscope and bright field microscope. Dr. Smith has also developed a new method of demonstrating bacterial capsules in a variety of organisms by means of phase microscopy.

Dr. Smith's research in medical mycology is being conducted in collaboration with the Department of Obstetrics and Gynecology, from which he has obtained a good collection of strains of the yeastlike fungus *Candida albicans*. This organism has proved particularly troublesome since the so-called "wide spectrum" antibiotics came into use. When used in excessive doses, such antibiotics kill the normal, beneficial bacteria of the human body and permit overgrowth of these yeastlike fungi, which are otherwise kept in check.

The object of Dr. Smith's studies is to aid in the identification of the causative fungi and the diagnosis of the infection as well as to study the basic cell structure of the organism.

Dr. Smith is also planning to test a new oral drug, Trichomycin, which a Japanese pharmaceutical firm has developed for use in amebiasis, candidiasis, and trichomoniasis, in collaboration with Dr. Hens D. Taubert, of the Department of Obstetrics and Gynecology. Dr. Smith will test the drugs in patients with vulvovaginitis.

Biographical Notes

CHARLES L. WISSEMAN, JR., M.D., *Professor of Microbiology and Head of Department, and Assistant Professor of Medicine*

Dr. Wisseman, a native of Texas, is a graduate of Southern Methodist University. He studied parasitology at the University of Michigan and Kansas State College and received his medical degree at Southwestern Medical College. After serving his internship and residency at Massachusetts Memorial Hospital he was appointed Assistant in Medicine at Boston University School of Medicine in 1947.

The following year he accepted a position with the Department of Virus and Rickettsial Diseases of the Army Medical Service Graduate School, where he became Chief of the Chemotherapeutic Research section and Assistant Chief of Medical Affairs.

He saw active service as an officer in the Medical Corps of the U. S. Army and was discharged as major in August 1954.

Dr. Wisseman was appointed Professor of Microbiology and head of the department at the University of Maryland School of Medicine in 1954. Since 1957 he has also served as assistant professor in the Department of Medicine.

His studies in the Army and at the University of Maryland have entailed field trips to North Borneo, Malaya, Korea, and Japan.

He belongs to a number of honorary and scholastic societies, including Sigma Xi, Alpha Omega Alpha, and Phi Beta Kappa, and is also a member of many professional societies, including the American Society of Tropical Medicine and Hygiene, the Society of American



Dr. Ollie R. Eylar and Victoria H. Plaster working with virus-infected tissue cultures.

Bacteriologists, the American Association of Immunologists, the Belgian Society of Tropical Medicine (as a foreign corresponding member), the American Society for Clinical Investigation, and the American Academy of Microbiology. He is a Diplomate of the American Board of Pathology.

Dr. Wisseman has been associated with the Armed Forces Epidemiological Board for several years and has served in many capacities. Appointed associate member of the Commission on Rickettsial Diseases in 1955, he was made Director in 1959. He has also been responsible investigator for the Commission on Immunization since 1955.

He was appointed chairman of the medical committee of the Chemical Corps Advisory Board in 1959. A member of the National Board of Medical Examiners, he has just completed a two-year term as chairman of the Bacteriology Test Committee. He is also on the panel of biological and chemical defense of the advisory group to the Director of Defense Research and Engineering.

Dr. Wisseman's publications include reports on the mechanism of action of chloramphenicol, metabolic studies, and other basic research relating to rickettsiae, the treatment of typhoid fever and scrub typhus, and the occurrence of leptospirosis, Japanese encephalitis, and other arthropod-borne diseases. He has contributed to medical textbooks about rickettsial diseases.

ANDREW G. SMITH, PH.D., *Associate Professor of Microbiology*

A native of Pennsylvania, Dr. Smith received his B.S. degree at Pennsylvania State College and his M.S. and Ph.D. degrees at the University of Pennsylvania. His doctoral thesis, "Electron and Light Microscopic Studies of Bacterial Nuclei," was published in the *Journal of Bacteriology*.

During World War II, he served in the U. S. Marine Corps and saw action at Kwajalein, Saipan, Tinian, and Iwo Jima.

Dr. Smith has done postgraduate work on bacterial viruses at Long Island Biological Laboratories, Cold Spring Harbor, N. Y.; on the diagnosis of infections at the Communicable Disease Centers in Chamblis, Georgia, and Birmingham, Ala.; and on tissue culture techniques at the University of Michigan.

Besides his papers about bacterial nuclei, Dr. Smith has published reports relating to the effect of acriflavine and phosphine GRN on lysis of bacteria by bacteriophage, the "fixation" of microscopic sections by the electron beam, the effect of enzymes on acid-treated spores of *Bacillus cereus*, and the sporulation process of *Clostridium perfringens*.

Dr. Smith joined the department staff as Assistant Professor of Microbiology in 1950 and was appointed Associate Professor in July, 1957.

He is a member of the Society of American Bacteriologists, American Association for the Advancement of Science, and New York Academy of Sciences, and an honorary member of Phi Beta Pi.

OLLIE RODDY EYLAR, PH.D., *Assistant Professor of Microbiology*

Dr. Eylar was born in Elmhurst, Ill., and studied microbiology at the University of Minnesota, where he served on the faculty as teaching assistant and lecturer in medical mycology and received his doctorate in 1959.

He also completed a graduate training program in immunology and experimental cancer at the University of Minnesota and has studied radioisotope techniques at Oak Ridge.

Dr. Eylar's research findings have been published in *Virology*, *Bacteriological Proceedings*, the *Journal of General Microbiology* (London), and the *Proceedings of the Society of Experimental Biology and Medicine*.

He is a member of the Society of American Bacteriologists and the New York Academy of Sciences.

Dr. Eylar joined the department staff in July 1959. His current research concerns tissue culture methods for arthropod-borne viruses.

MERRILL J. SNYDER, PH.D., *Associate Professor of Medicine in Clinical Microbiology*

A native of Glassport, Pa., Dr. Snyder is an alumnus of the University of Pittsburgh. He has done graduate work at George Washington University and the University of Maryland, where he received his Ph.D. in bacteriology in 1953.

After three years as a clinical chemist at McKeesport Hospital, Dr. Snyder entered the U. S. Army in 1941, where he served in the Department of Virus and Rickettsial Diseases of Walter Reed Army Medical Center until 1945. After the war he stayed on at Walter Reed as medical bacteriologist until 1949, when he joined the staff of the University of Maryland School of Medicine in a dual capacity—as Fellow of the Department of Bacteriology and Instructor in the Section of Infectious Diseases of the Department of Medicine.

Since 1957 he has been Associate Director of the Section of Infectious Diseases, and since 1959 Associate Professor of Medicine in Clinical Microbiology.

Dr. Snyder is immediate past president of the Maryland branch of the Society of American Bacteriologists. His publications include reports on various aspects of infectious diseases.

HYMAN EDMUND LEVIN, M.D., *Assistant Professor of Microbiology (part-time)*

Dr. Levin is a native of Brooklyn, N. Y. He received a Bachelor of Science degree in chemistry at the University of Maryland and a degree in medicine at the University of Maryland School of Medicine.

He is a member of the American Medical Association and the American Association of General Practitioners.

Dr. Levin has been associated with the department continuously since 1928. He served with the U. S. Army in World War I.

WILLIAM F. MYERS, PH.D., *Instructor in Microbiology*

Dr. Myers was born in Kansas City, Mo.,

MEDICAL SCHOOL SECTION

and received his training in microbiology and biochemistry at the University of Kansas, where he was awarded a Ph.D. degree in 1958.

While working toward his degree, Dr. Myers served as Assistant Instructor and Research Assistant in the Department of Bacteriology at the University of Kansas. He also worked two years as chemist for the Hercules Powder Co.

Dr. Myers completed a course in radioisotope techniques at the Oak Ridge National Laboratory in 1959.

He has published reports relating to mycelial phase-yeast phase conversion in *Histoplasma capsulatum*, the metabolism of *R. akari*, and the physiology of rickettsiae.

Dr. Myers is a member of the Society of American Bacteriologists, Sigma Xi, Phi Sigma, and the Kansas Academy of Sciences.

Dr. Myers joined the department staff as Instructor in 1958. His research here relates to the metabolism of rickettsiae.

EDWARD CHARLES ROSENZWEIG, PH.D., *Instructor in Microbiology*

Dr. Rosenzweig's association with the University of Maryland dates back to 1954, when he started work as graduate assistant at College Park. He received his Master's degree from the University of Maryland in 1956 and his Ph.D. in 1959. He joined the Department of Microbiology at the Medical School as Instructor in 1959.

A native of Plainfield, N. J., he is an alumnus of Centre College. From 1951 to 1953 he served with the U. S. Marine Corps.

Dr. Rosenzweig is a member of Sigma Chi Fraternity and the Society of Sigma Xi.

Dr. Rosenzweig is conducting studies on arthropod-borne virus infections.

MARTHA EVERITT JORDAN, PH.D., *Instructor in Microbiology (part-time)*

Dr. Jordan was born in Beaumont, Tex., and was graduated from the University of Texas. She studied parasitology and microbiology at Tulane University, where she received her doctorate in 1955 and joined the staff of the Medical School as instructor of epidemiology in the Department of Tropical Medicine and Public Health, where she had extensive experience in typhus vaccine studies.

She joined Dr. Wisseman's staff in September 1959 and is working on the E strain typhus vaccine.

Dr. Jordan is a member of Alpha Omicron Pi.

RUTH GRAESER WITTLER, PH.D., *Instructor in the Adjunct Faculty*

Dr. Wittler is a native of Baltimore and an alumna of Oberlin College. She received her Master of Science degree from The Johns Hopkins University and Doctor of Philosophy degree from Western Reserve University.

In 1947 she joined the staff of Western Reserve Medical School as Instructor in Immunology and was appointed Assistant Professor in 1952. She spent three years, from 1949 to 1951, as Jenner Memorial Fellow in the Lister Institute of Preventive Medicine, in London.

Dr. Wittler assumed her present position, as bacteriologist with the Veterans Administration, Walter Reed Army Medical Center, in 1953.

Her fields of research, about which she has published extensively, are tetanal toxins; tetanal toxoid and antitoxin; diphtherial toxoid; staphylococcal toxin, pathogenesis of pertussis; and pleuropneumonia-like organisms.

Dr. Wittler is a member of the Society of American Bacteriologists, the New York Academy of Sciences, and Sigma Xi.

IRENE B. FABRIKANT, M.S., *Fellow in Microbiology*

Mrs. Fabrikant, a native of Krakow, Poland, received her B.S. and M.S. degrees from McGill University in Montreal, where she served as Clinical Biochemist, Research Assistant, and Instructor of Bacteriology.

From 1957 to 1958 she was assistant in research in the Radioisotope Unit of the Veterans Administration Hospital and the Department of Medicine, Duke University School of Medicine.

She joined the microbiology staff in 1958 and is conducting research relating to the effects of radiation on host susceptibility to attenuated strains of epidemic typhus.

WILLIAM HOLMES WOOD, JR., A.B., *Fellow in Microbiology*

Mr. Wood is a native of Newburgh, N. Y., and a graduate of the Johns Hopkins University.

During the summers of 1954 and 1955 he was employed as Research Assistant in Physiology at the Army Medical Research Laboratory at Ft. Knox, Ky., and in the summer of 1956 he worked as Research Assistant in Historadiopathology at the Armed Forces Institute of Pathology.

He holds a commission as second lieutenant

in the Medical Service Corps of the U. S. Army Reserve.

Mr. Wood is on his fourth year of work toward a combined M.D.-Ph.D. degree. His research relates to the composition and synthesis of the rickettsial cell wall, which has a bearing on the organism's antigenic properties. VICTORIA HOWIE PLASTER, B.S., *Fellow in Microbiology*

Miss Plaster is a native of Shelley, N. C., and a graduate in microbiology of the University of Maryland.

She was appointed as fellow in the department January 1, 1960, and is assisting Dr. Eylar in developing tissue culture techniques for the assay and cultivation of viruses.

ANTONIO RODRIGUEZ NORIEGA, M.D., *Post-doctoral Fellow in Microbiology*

Dr. Noriega is a native of Spain. He received his medical education at the University of

Madrid and his training in internal medicine as a resident at Lutheran Hospital of Maryland.

He joined the department in January 1960 and is conducting research in immune mechanisms in arthropod-borne virus infections.

Two medical student Fellows are also currently working in the Department of Microbiology:

CARMEN ANTHONY FRATTO, B.S., *Part-time Student Fellow*

LEONARD JAY FIGELMAN, C.S., *Part-time Student Fellow*

Two additional medical students will work in the department as Fellows this summer:

ANDRES A. ACOSTA-OTERA, *Summer Student Fellow*

HERBERT PAUL SIMPSON, B.A., *Summer Student Fellow*

Contributors to American Medical Education Foundation

DR. WILLIAM S. STONE has announced that a significant group of Alumni have contributed to the American Medical Education Foundation, earmarking their contributions for use in the School of Medicine. While individual letters of acknowledgement have been sent by the Dean, the BULLETIN and the Faculty wishes to acknowledge with thanks the generous contributions of the Alumni whose names appear below:

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Proceedings—Sept. 1959 to May 1960

Sept. 23, 1959, Program Meeting, Bressler Library. A paper entitled "Some Aspects of Hypothalamic-Hypophyseal Relationships" was presented by Dr. Theodore F. Leveque, Associate Professor of Anatomy, University of Maryland School of Medicine.

Oct. 28, 1959, Program Meeting and Election of Officers, Bressler Library. Two accounts of recent research in European laboratories were presented by members who had recently returned from abroad. Dr. Francis M. Miller, Associate Professor of Chemistry, University of Maryland School of Pharmacy spoke on "Scientific Education and Research in Germany." Dr. John I. White, Associate Professor of Physiology, Department of Physiology, University of Maryland School of Medicine, spoke on "Research in the Max Planck Institute for Medical Research." Officers elected to serve during the year 1959-1960 were:

President—DR. LESLIE C. COSTELLO,
School of Pharmacy.

Secretary—DR. D. VINCENT PRO-
VENZA, School of Dentistry.

Treasurer—DR. DONALD E. SHAY,
School of Dentistry.

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JR.

Nov. 4, 1959, Special Program Meeting, Bressler Library. A paper entitled "Current Concepts of the Pulmonary Vascular Bed" was presented by Dr. Robert E. Forster, Professor of Physiology, Graduate School of Medicine, University of Pennsylvania, Philadelphia.

Dec. 16, 1959, Business and Program Meeting, Bressler Library. The following persons were elected to membership in The Society:

Ordinary Membership

MURRAY C. SPEAR, *Graduate Student (AFPE Fellow), School of Pharmacy.*

PHILLIP J. LEVINE, *Instructor in Pharmacy, School of Pharmacy.*

DR. FRANK A. DOLLE, *Instructor, Department of Pharmacology, School of Dentistry.*

DR. MARTIN HELRICH, *Professor of Anesthesiology, School of Medicine.*

DR. LEONARD SCHERLIS, *Associate Professor of Medicine and Head of Division of Cardiology, School of Medicine.*

DR. ALVIN F. GARDNER, *Associate Professor of Oral and General Pathology, School of Dentistry.*

DR. JOSEPH SEIPP, *Instructor, Department of Histology, School of Dentistry.*

Associate Membership

MISS NORMA JEAN ADAMO, *Research Assistant, Department of Histology, School of Dentistry.*

DR. H. F. CASCURBI, *Research Associate, Department of Pharmacology, School of Medicine.*

MELVIN CHAIET, *Graduate Student, Department of Chemistry, School of Pharmacy.*

JOSEPH L. COLBURN, *Fellow, Department of Biochemistry, School of Medicine.*

CONRAD P. DORN, JR., *Research Fellow, Department of Chemistry, School of Pharmacy.*

JOHN JORDAN, *Graduate Assistant, Department of Histology, School of Dentistry.*

THEODORE H. T. WANG, *Teaching Assistant, Department of Chemistry, School of Pharmacy.*

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DR. CHARLES ORVILLE APPLEMAN, *Dean Emeritus, Graduate School.*

DR. MAURICE C. PINCOFFS, *Professor Emeritus and Head of Preventive Medicine, School of Medicine.*

DR. EDUARD UHLENHUTH, *Professor Emeritus and Head (Retired), Department of Anatomy, School of Medicine.*

Following the election of members a

paper entitled "Lathyric Changes in the Mandibular Condyle of the Albino Rat" was presented by Dr. Alvin F. Gardner, Associate Professor, Department of Oral and General Pathology, School of Dentistry. (See abstract.*)

Feb. 1960, Program Meeting, Bressler Library. A paper entitled "Studies on the Berry-Dedrick Transformation in Vitro and in Vivo Systems" was presented by Dr. Ollie Eylar, Assistant Professor, Department of Microbiology, School of Medicine.

March 9, 1960, Special Program Meeting, Bressler Library. A paper entitled "Biological Activities of the Phenylalanine Chain of Insulin" was presented by Dr. Robert Langdon, Associate Professor of Biochemistry, Johns Hopkins School of Medicine.

April 6, 1960, Special Program Meeting, Bressler Library. A paper entitled "Interfibrillar Vacuoles in the Cerebral Cortex" was presented by Professor S. T. Bok, Department of Neurobiology, University of Amsterdam School of Medicine, and Director of the Dutch Central Institute for Brain Research.

May 11, 1960, Special Program Meeting, Bressler Library. A paper entitled "Correlations of Pulmonary Structure and Function" was presented by Professor Heinrich von Hayek, Director of the Anatomical Institute of the University of Vienna, Austria.

May 18, 1960, Annual Banquet and Program Meeting, Candlelight Lodge, Catonsville. A paper entitled "World Population Pressures" was presented by Dr. Matthew Tayback, Assistant Commissioner of Health, Research and Planning Section, Baltimore City Health Department.

***Abstract**

Ninety-six male albino weanling rats 45-50 Gm. in weight of the Holtzmann-Sprague-Dawley strain were employed in this study of the alterations in the hyaline cartilage of the mandibular condyle and other abnormalities of the skeleton by lathyric rats. Experimental animals were given a pea meal diet containing 30 and 50 per cent of the seeds of the sweet pea, *Lathyrus odoratus*. Littermate control animals were fed a Rockland rat diet. The animals were killed for study after varying periods on the control and experimental diets.

The essential experimental findings were as follows:

1. There is an initial increase in the thickness of the growth cartilage of mandibular condyle with an increase in the number of chondrocytes in the hyaline cartilage of lathyric mandibles.

2. In severe lathyrism the entire condylar cartilage is replaced by a young proliferating connective tissue.

3. In animals fed supplements consisting of proteins and amino-acids the alterations were minimal with the hyaline cartilage remaining intact.

4. Osteoblastic activity is maintained at a low level in the nonsupplemented lathyric rats.

5. Osteoclastic activity is maintained at a high level in the nonsupplemented lathyric animal. Osteoid tissue is never produced.

6. Gross structural deformities occurred in the condyle of the mandible due to destruction of the hyaline growth cartilage.

7. The effect of lathyrigenic diets upon the mandibular growth cartilage is not analogous to that observed in the articular and epiphyseal cartilages of tubular bones. The growth cartilage in

the condyle is drastically malformed. The cartilage of the condyle is completely replaced by young proliferating connective tissue. This phenomenon is the consequence of the beta-amino-propionitrile toxin in the *Lathyrus odoratus*, sweet pea, and the consecutive susceptibility of the condyle to resorption.

From the observations reported in this investigation as well as those reported by previous investigators one may conclude that the basic lesion in lathyrism is a change in the hyaline cartilage reflected by one of the following: 1) an accumulation of abnormal ground substance, 2) a disturbance in collagen formation, and 3) either excessive destruction or defective formation of the chondroitin sulphate of the ground substance.

In animals which were restricted to the nonsupplemented lathyrigenic diet for eight weeks, the condylar head lost all of its normal crescent contour and appeared flattened. This was evidence both of retarded growth and of destruction and excessive resorption of the poorly developed condylar head.

The lathyric state is therefore manifested by severe changes in the condylar growth cartilage. The changes in the growth cartilage are readily evaluated by dividing the condylar head into zones and by qualitatively describing the alterations in the various zones. In order to minimize the effect of local variation, the results represented the average changes in each group of animals.

The findings in the lathyric mandibular condyle are not similar in principle with those of the lathyric epiphyseal or articular cartilages. In the condyle the principal normal mode of appositional growth changes to an interstitial mode of growth during the early stages of this disease. As time progresses and the changes become more severe the conse-

quence is a total destruction of the hyaline growth cartilage and its replacement by young proliferating connective tissue.

In the epiphyseal plate on the other hand there is a proliferation of the cartilage in the long bones without its replacement by bone; hence the hyperplasia of cartilage in this growth center. The function of the condylar cartilage as the most important growth center in the mandible is verified by these experimental findings. Due to the replacement of the condylar cartilage the length and height of the mandible were greatly diminished. Although the lathyric toxin produces an initial proliferation of the condylar growth cartilage, this prolifera-

tive action will continue only for a limited period, thereafter it is transformed into a destructive process. In other words, the hypothesis is justified that lathyrisms will lead to a slackening and finally to complete cessation of mandibular growth.

These findings in the condylar growth cartilage may also serve as partial evidence for the related finding of lathyric disturbances in the vertical eruption of teeth as the consequences of the cessation of mandibular growth. Vertical tooth eruption, therefore, depends upon the vertical growth of the mandibular ramus by which the necessary space for tooth eruption is provided.

POSTGRADUATE COMMITTEE SECTION

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ELIZABETH B. CARROLL, *Executive Secretary*

Postgraduate Office: Room 201

Davidge Hall, Lombard and Greene Streets
Baltimore 1, Maryland

The postgraduate course in Neuro-pathology (Dec. 1959-May 1960) was very enthusiastically received by the 11 physicians who matriculated. Enrollment in this course was necessarily limited, but in this small group five states were represented.

The current course in Basic Sciences As They Apply to the Practice of Medicine has an enrollment of 62 postgraduate students: Clinical Anatomy, 12, enrollment being necessarily limited in the latter course.

The course given for members of the Maryland Academy of General Practice at Hughesville, Maryland, last fall was quite a success and the Postgraduate Committee has been requested by the Secretary of the St. Mary's County Medical Society to undertake to give a similar course in southern Maryland in the fall of 1960.

The course in Pulmonary Diseases, which was given on April 28 and 29, had a registration of 16 students and from all reports the course was very well received.

Sixty-six physicians of Maryland and one from Delaware attended the annual Maryland Academy of General Practice Day on May 5. Those who attended the seminars and clinics were most complimentary and the Committee wishes to take this opportunity to thank Drs. John Wagner, Louis Krause, and Harry M. Robinson, Jr., who made up the sub-committee on arrangements for the scientific program. The Committee thanks also the Members of the Faculty who conducted such interesting clinics and conferences and participated in the panel discussions. The morning session consisted of clinics on Dermatology, Gynecology, and a Practical Medical Diagnostic Clinic. In the afternoon a Clinico-pathologic Conference, Practical Neurology Clinic, and a Practical Cardio-Pulmonary Clinic were covered, followed by panel discussions.

All inquiries pertaining to postgraduate medical courses should be addressed to the Committee by letter or by phoning the office, PLaza 2-1100, Ext. 278.



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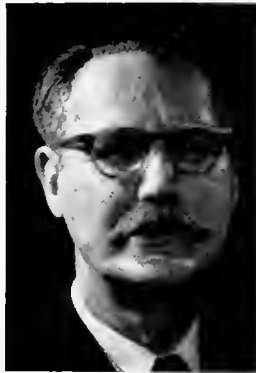
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President's Letter

Dear Fellow Alumni:

Some five years ago your Board of Directors envisioned an association truly representative of the entire body of alumni. Much inertia had to be overcome. Though they expended much energy progress was slow. During the past two years, Dr. Harry M. Robinson, Jr., and Dr. Ernest I. Cornbrooks, with their tremendous drive, have added momentum to this trend.

This coming year, with a combination of more adequate funds, and especially your continuously expanding participation, that great wish will be ever closer to accomplishment.

Sincerely,

ARTHUR G. SIWINSKI, M.D.
President

MEDICAL ALUMNI ASSOCIATION WELCOMES GRADUATES OF CLASS OF 1960

THE NEWLY graduated members of the Class of 1960 were honored guests of the Medical Alumni Association at the Annual Meeting of the Association and later at the Alumni Luncheon. The new Alumni were also honored guests along with the Fifty-year Graduates at the Annual Banquet held at the Lord Baltimore Hotel on June 2. As customary, each new Alumnus will receive the BULLETIN as a gift of the Medical Alumni Association for the first year following graduation. Members of the Class of 1960 and the hospitals where they will serve their internship are listed below.

ALEVIATOS, ARISTIDES

Mercy Hospital, Baltimore, Md.

AWALT, LAWRENCE F., JR.

University Hospital, Baltimore, Md.

BENNETT, JOHN J.

Harrisburg Hospital, Front & Mulberry Sts., Harrisburg, Pa.

BERGER, LEONARD P.

University Hospital, Baltimore, Md.

BERTUCH, ALBERT W.

U. S. Naval Hospital, Portsmouth, Va.

BRECHER, HERMAN

University Hospital, Baltimore, Md.

BRENNER, ARNOLD

University Hospital, Baltimore, Md.

BROWN, DONALD

Henry Ford Hospital, 2799 W. Grand Blvd., Detroit, Mich.

CHEEKS, SHERRILL C.

Akron General Hospital, 400 Wabash Ave., Akron 7, Ohio

COOKE, JEREMY V.

Cleveland Metropolitan General Hospital, 3395 Scranton Rd., Cleveland 9, Ohio

DAMIANO, LOUIS M.

Albany Hospital, New Scotland Ave., Albany 8, N. Y.

DATLOW, DONALD W.

Womack Army Hospital, Fort Bragg, N. C.

DEVORE, PAUL A.

Providence Hospital, 1150 Varnum St., N.E., Washington 17, D. C.

DUNN, JAMES E., II

Pennsylvania Hospital, 8th & Spruce Sts., Philadelphia, Pa.

ECONOMON, STRATY H.

Washington Hospital, 1711 New York Ave., Washington 6, D. C.

FARLEY, HAL D.

General Hospital, 4475 E. Ventura Ave., Fresno County 2, Calif.

FELLNER, MICHAEL J.

Kings County Hospital, 451 Clarkson Ave., Brooklyn 3, N. Y.

FEOLA, BENJAMIN J.

George Washington University Hospital, 901 23rd St., N.W., Washington 7, D. C.

FERCIOT, THOMAS N.

University Hospital, Baltimore, Md.

GLASS, ALVIN

Children's Hospital, 3700 California St., San Francisco 18, Calif.

GOLDSTEIN, BURTON J.

Jackson Memorial Hospital, 1700 N.W. 10th Ave., Miami 36, Fla.

GROSSMAN, I. WILLIAM

Mount Sinai Hospital, 1 East 100th St., New York 29, N. Y.

HAYDEN, FRANKLIN R.

Duval Medical Center, 2000 Jefferson St., Jacksonville 8, Fla.

HEFFNER, WILSON A.

Barnes Hospital, 600 Kingshighway, St. Louis 10, Mo.

HENNING, GEORGE H.

University Hospital, Baltimore, Md.

HENSALA, JOHN D.

St. Vincent's Hospital, 2447 N.W. Westover Road, Portland 10, Ore.

HERMAN, JEROME H.

Sinai Hospital, Baltimore, Md.

HILL, CHARLES E.

St. Agnes Hospital, Baltimore, Md.

HONICK, LAWRENCE F.

Michael Reese Hospital, 2839 S. Ellis Ave., Chicago 16, Ill.

HUFFINGTON, PAUL E., JR.

St. Luke's Hospital, 601 E. 19th Ave., Denver 3, Colo.

JAMES, HERBERT H., JR.

Madigan Army Hospital, Ft. Lewis, Tacoma 9, Wash.

- KESMODEL, CHARLES R.
St. Luke's Hospital, 601 E. 19th Ave.,
Denver 3, Colo.
- KEYSER, RONALD E.
St. Agnes Hospital, Baltimore, Md.
- KING, JAMES C.
University Hospital, Baltimore, Md.
- KURAD, JOSEPH W.
Duke Hospital, Durham, N. C.
- LA MASTRA, PHILIP M.
Hartford Hospital, 80 Seymour St., Hartford
15, Conn.
- LATIMER, WILLIAM E.
Kings County Hospital, 451 Clarkson Ave.,
Brooklyn 3, N. Y.
- LAVY, RICHARD C.
Mercy Hospital, Baltimore, Md.
- LEAKAN, MICHAEL H.
Cook County Hospital, 1825 W. Harrison
St., Chicago 12, Ill.
- LESKY, WALTER C.
St. Agnes Hospital, Baltimore, Md.
- MARTELLO, HERBERT A.
St. Agnes Hospital, Baltimore, Md.
- MESSINA, JOHN J.
University Hospital, Baltimore, Md.
- MEYER, PAUL D.
University Hospital, Baltimore, Md.
- MILLS, DAMON F.
Cincinnati General Hospital, 3231 Burnet
Ave., Cincinnati 29, Ohio
- MORTON, JOHN C.
Harrisburg Hospital, Front & Mulberry Sts.,
Harrisburg, Pa.
- MYERS, ALLEN R.
University Hospital, Baltimore, Md.
- NORMANLY, JERROD
Vanderbilt Hospital, 21st Ave. S at Edgehill,
Nashville 5, Tenn.
- ODEND'HAL, FORTUNE, JR.
Akron City Hospital, 525 E. Market St.,
Akron 9, Ohio
- PASSEN, SELVIN
Highland-Alameda County Hospital, 2701
14th Ave., Oakland 6, Calif.
- RAPOPORT, MORTON I.
University Hospital, Baltimore, Md.
- REED, JEROME M.
U. S. Naval Hospital, Portsmouth, Va.
- ROBINSON, NEIL A.
University of Illinois Research, 840 S. Wood
St., Chicago 12, Ill.
- ROGERS, CLINTON L.
Public Health Service, Marine Hospital,
Baltimore, Md.
- ROSS, JEROME
Sinai Hospital, Baltimore, Md.
- SALAN, JERRY
University Hospital, Baltimore, Md.
- SARNI, ROBERT P.
Rhode Island Hospital, 593 Eddy St., Provi-
dence 2, R. I.
- SAUNDERS, ELIJAH
University Hospital, Baltimore, Md.
- SAVILLE, BRUCE G.
Presbyterian-St. Lukes Hospital, 1753 West
Congress Pkwy., Chicago 12, Ill.
- SHULMAN, JONAS A.
University Hospital, Baltimore, Md.
- SIGMAN, BERNICE
University Hospital, Baltimore, Md.
- SILVERSTEIN, EMANUEL
Mercy Hospital, Baltimore, Md.
- SIMOR, GABOR
Glendale Sanitarium & Hospital, 1509 E.
Wilson Ave., Glendale 6, Calif.
- SMITH, CHARLES P., JR.
Akron General Hospital, 400 Wabash Ave.,
Akron 7, Ohio
- SMITH, GEORGE I., JR.
University Hospital, Baltimore, Md.
- SMITH, MORTON E.
Denver General Hospital, 1886 W. 6th Ave.
& Cherokee St., Denver 4, Colo.
- STANDFORD, J. W. E.
University Hospital, Baltimore, Md.
- STAUFFER, MARTHA E.
University Hospital, Baltimore, Md.
- STOFBERG, NATHAN
Sinai Hospital, Baltimore, Md.
- STRAM, JOHN R.
University Hospital, Baltimore, Md.
- SYPIUS, MERRILL T.
Huntington Memorial Hospital, 100 Con-
gress St., Pasadena 2, Calif.
- TENNER, MICHAEL S.
University Hospital, Baltimore, Md.
- TOULAN, THEODORE F.
St. Agnes, Baltimore, Md.
- TITCH, HAROLD R., JR.
University Hospital, Baltimore, Md.
- VOICJAK, CHARLES B.
U. S. Naval Hospital, St. Alban's, N. Y.
- WALLACE, JOHN W.
W. H. Groves Latter-Day Saints Hospital,
325 8th Ave., Salt Lake City 3, Utah
- WASHINGTON, FRANK W.
District of Columbia General Hospital, 19th
& E. Sts., Washington 3, D. C.

WHITE, HUBERT R., JR.

University Hospital, Baltimore, Md.

YATES, JAMES A.

Cleveland Clinic Hospital, 2050 E. 93rd St.,
Cleveland 6, Ohio

YOUNG, DONALD L.

Children's Orthopedic Hospital, 4800 Sand
Point Way, Seattle 5, Wash.

YOUNG, LOIS A.

University Hospital, Baltimore, Md.

ZALIS, EDWIN G.

William Beaumont General Hospital, El
Paso, Tex.

ZANKER, TILFODORE

Lenox Hill Hospital, 111 E. 76th St., New
York 21, N. Y.

Report of the Board of Directors of the University of Maryland Medical Alumni Association

March 15, 1960

Communications were read, among them a letter from an alumnus, Class of 1910, enclosing check in the amount of \$100.

President Cornbrooks reported ex-officio appointment to membership on the Postgraduate Committee, the President of the Alumni Association henceforth to be a member of that Committee. By invitation from the Dean, President Cornbrooks shared in an interview of a prospective candidate for a professorship in the Department of Biochemistry.

The Treasurer presented a financial report which reflected a sad state of the treasury.

A motion prevailed authorizing placing an ad in *Terrae Mariae Medicus*.

Report of the Student Loan Fund Committee revealed loans had been made which reduced the fund to a level needing support. A note of appreciation was extended the committee.

The Nominating Committee reported the following recommended slate: President Elect, Dr. Frank Morris; Vice Presidents: Dr. William Martin, Dr. Joseph Nataro, Dr. C. F. Strosnider;

Secretary, Dr. J. Emmett Queen; Treasurer, Dr. Howard B. Mays; Board of Directors: Dr. E. F. Cotter, Dr. Lawrence M. Serra, Dr. Everett S. Diggs.

Chairman for Alumni Day program reported satisfactory progress and gave assurance that every facet was receiving attention.

J. EMMETT QUEEN, M.D.

Secretary

Reunion Held on Occasion of North Carolina State Medical Society

MORE than 35 graduates of the School of Medicine attended a luncheon held at the annual meeting of the Medical Society of North Carolina at Raleigh, N. C., on May 9, 1960.

The luncheon held at the College Inn on Monday, May 9, 1960, featured Dr. John C. Krantz, Jr., Professor of Pharmacology at the School of Medicine, who spoke on "The Medical School in the Age of Science."

The cocktail hour prior to the luncheon was given to the exchange of ideas and interesting comments among the alumni who were present. The meeting was presided over by Dr. Carl N. Patterson, Otolaryngologist of Durham, N. C. One of the highlights of the convention was the exhibit by Dr. Patterson on rhinoplasty and septoplasty.

Dr. Robert Moses Named Chairman

DR. ROBERT MOSES of the Department of Ophthalmology, Washington University, St. Louis, Mo., has been named Chairman of the University of Maryland reunion to be held on the occasion of the 54th Annual Meeting of the Southern Medical Association to be held in St. Louis, October 31-November 3, 1960.

Tentative plans call for a reunion to be held on Tuesday evening, November 1. Details will be sent to each Alumnus.

Class

NOTES

P & S 1884

THE phenomenal length of **James M. Flippin's** medical practice is measured in 76 continuous and uninterrupted years. At 96, Dr. Flippin is still engaged actively in the practice of medicine at his home town, Pilot Mountain, N. C.

One of the youngest ever to graduate from the College of Physicians and Surgeons, he was awarded the M.D. degree at the age of 20. Aside from his continuing active medical practice, Dr. Flippin's son, Eugene, is active as a well-known radiologist in Baltimore and another one of his sons is in practice in Baltimore, as well. A daughter is a student at the Bowman-Gray School of Medicine in Winston-Salem, N. C. In 1955, Dr. Flippin was named Man of the Year in 1955.

P & S 1893

Charles W. Petty of Hartford, W. Va., died February 5, 1960. Dr. Petty was 93.

P & S 1894

Robert Addison Campbell of Homestead, Pa., died on November 28, 1959. Dr. Campbell was 90.

Class of 1891

Julius Elmond Kempter of 150 E. Queen Street, Chambersburg, Pa., died March 4, 1960.

B.M.C. 1895

Bertrand A. Chapman of Springfield, Vt., died December 9, 1959, aged 91.

Class of 1895

Melvin Butcher Crockett, a prominent Tazewell, Va., physician, farmer, and businessman, died recently following a very brief illness. Dr. Crockett was 86.

A native of Williamson, Va., and a descendant of pioneer families, Dr. Crockett was educated in private schools and in 1895 graduated from the School of Medicine. He returned to Tazewell for awhile and then returned to the School of Medicine for graduate work in obstetrics and surgery. The first successful appendectomy in Southwest Virginia was attributed to his skill. In 1908, Dr. Crockett again left his private practice to enter the Harvard Medical School, doing residency work in Boston and specializing in internal medicine, studying under the late Dr. Richard C. Cabot. Dr. Crockett was an honorary member of the Bluefield Sanitarium, a member of Phi Beta Kappa and Theta Kappa Psi medical fraternities. He was a member of the Tazewell County Medical Society and the American Medical Association. In two World Wars he served as a member of the Selective Service examining board.

Class of 1896

Dorsey W. Lewis of Middletown, Del., died April 17, 1960. He was 86.

Class of 1899

Anthony L. Rettaliata, for more than 30 years a practicing physician in the eastern part of Baltimore, died at his home, 2405 Chesterfield Ave., on May 7, 1960. He was 85.

A native of Baltimore, he received his early education in the public schools of Baltimore City and graduated from the Baltimore City College and entered the University of Maryland where he received his degree in 1899.

After his graduation from the School of Medicine, he was appointed Assistant Physician at the Sinai Hospital and in 1900 became Resident House Physician there. For many years, Dr. Rettaliata served actively with the Baltimore City Health Department as a part-time school medical examiner and investigator of communicable diseases. In 1933 he gave up private practice and concentrated his duties, centering his work in the new City Eastern Health District, becoming the first full-time health officer on the payroll of the Baltimore City Health Department.

B.M.C. 1900

Jared Homer Miller of Pasadena, Calif., died January 16, 1960, at the age of 89.

P & S 1901

John B. McMurray of 400 N. Wade Avenue, Washington, Pa., died February 18, 1960.

P & S 1902

William M. Garrison of St. Clairsville, Ohio, died in February, 1960, aged 81.

B.M.C. 1902

Ernest G. Hummel, for many years a practicing pediatrician in Jenkintown, Pa., has recently retired as Chief of the Pediatric Department of the Cooper Hospital, an 800-bed hospital in Camden, N. J.

Following his graduation from the Baltimore Medical College, he attended special courses in pediatrics at the New York Postgraduate Hospital and later took postgraduate training under the late Drs. Ruhrah and Sanger.

A practicing pediatrician for more than 45 years, even though he is retired, Dr. Hummel at 82 is in excellent health. In 1952, he was honored by receiving a Gold Certificate for 50 years of practice

of medicine in the State of New Jersey. Dr. Hummel has served as President of the Camden (N. J.) County Medical Society and the New Jersey State Pediatric Society. He is a member of the American Academy of Pediatrics, the Philadelphia Pediatric Society, and the Tri-City Pediatric Society.

P & S 1903

Frank W. Beck of 408 E. 6th Street, Erie, Pa., died December 14, 1959.

Class of 1904

Perry Bird Goodwin of 1914 N. Prospect Road, Peoria, Ill., died January 1, 1960.

James Madison Lynch of Fairview, N. C., died November 22, 1959. Dr. Lynch was 82.

B.M.C. 1905

Isaac Spector of 1438 E. Grand Avenue, St. Louis, Mo., died October 17, 1959.

Class of 1905

Milton R. Gibson of 105 Chamberlain Street, Raleigh, N. C., died January 11, 1960. Dr. Gibson was 77.

B.M.C. 1906

John W. Sanderson died March 18, 1960.

Henry J. Walton was recently honored by his associates at a luncheon held in the University Hospital. A portrait of Dr. Walton, painted by H. A. Brownson, was unveiled in the Department of Radiology. The portrait was contributed by two of Dr. Walton's associates, Drs. Walter L. Kilby and Charles N. Davidson. Dr. Walton has recently established the Henry J. Walton Distinguished Lectureship in Radiology at the University of Maryland School of Medicine.

B.M.C. 1907

Charles P. Vincent, Jr. of Laurens, S. C., died December 5, 1959, aged 76.

B.M.C. 1908

Michael Liebson, 174 Gregory Avenue, Passaic, N. J., died January 27, 1960, aged 76.

Class of 1909

Charles A. Neafie of 493 Orchard Lake Avenue, Pontiac, Mich., died at the age of 77 on March 23, 1960.

Class of 1910

Roscoe D. McMillan of Red Springs, N. C., was honored by fellow surgeons of the Atlantic Coast Line Railroad for more than 40 years of service representing the medical services of the railroad. Dr. McMillan was presented a pin and a certificate for his two-score years as a member of the Atlantic Coast Line Surgeons' Association. Dr. J. C. Buntin, Chief Surgeon of the Coast Line, made the award.

Class of 1910

A. L. Hyatt of Kinston, N. C., died February 10, 1960.

B.M.C. 1911

John Patrick Tierney of St. Johnsbury, Vt., died on March 28, 1960.

Class of 1911

Adolph Mulstein of New York City died January 12, 1960, at the age of 81.

P & S 1912

Louis Friedman of Norfolk, Va., died February 16, 1960. Dr. Friedman was 71.

Class of 1912

J. Edward Hubbard of 3401 Green-

way, Baltimore, Md., died February 23, 1960.

B.M.C. 1913

Henry Schlesinger of 6000 Penn Avenue, Pittsburgh, Pa., died January 12, 1960, at the age of 77.

Class of 1917

Samuel B. Barishaw has moved from his home in New Jersey to 1514 Los Osos Valley Road, San Luis Obispo, Calif. Dr. Barishaw is a Fellow of the American College of Chest Physicians and is certified in this specialty.

Class of 1919

Chester Joseph Helsabeck of Walnut Cove, N. C., died February 19, 1960, aged 64.

Class of 1920

John William Metcalf of Toronto, Ohio, died January 6, 1960. He was 65.

Class of 1921

Thomas R. O'Rourke, Professor of Otolaryngology in the School of Medicine, was honored by the undergraduates of Nu Sigma Nu Medical Fraternity at a reception held at the fraternity home, 922 St. Paul Street, on April 9, 1960.

An appropriately inscribed plaque was presented to Dr. O'Rourke in recognition of his long and continued interest in the welfare of the Beta Alpha Chapter of Nu Sigma Nu. For many years Dr. O'Rourke has been an active member of the Alumni Corporation and has been most influential in procuring and maintaining the fraternity home.

James Barry Ryon of Mobile, Ala., died January 15, 1960, aged 61.

Class of 1925

Bryan N. Roberts of Hillsboro,

N. C., died January 1, 1960. Dr. Roberts was 61.

Henry H. Simpson of Elon College, N. C., died December 19, 1959.

Class of 1928

Simon Brager of 1800 N. Charles Street, Baltimore, Md., died April 23, 1960. Dr. Brager was active on the staff of Mercy Hospital and for many years was active on the teaching staff of the Department of Surgery in the School of Medicine. In World War II he served in the Pacific area with the University Hospital Medical Unit, the 42nd General Hospital.

Lewis P. Gundry, Associate Professor of Medicine, has been named Chairman of the State of Maryland's first Commission on Alcoholism.

At the direction of the General Assembly of 1960, the Committee is charged with charting a course in the treatment of the illness, alcoholism.

Among the many recommendations made by the General Assembly are included tentative proposals for creation of a center for the treatment of alcoholism and for the creation of a permanent State commission.

Dr. Gundry has been active for many years in the study and treatment of the problems of alcoholism. He is also Chairman of the State Board of Medical Examiners. Other members of the Commission include: Dr. Leo Bartemeier, Medical Director of the Seton Institute, several attorneys, and lay members.

Class of 1929

John Galoway Lynn died December 22, 1959, at the age of 56.

Class of 1930

Samuel H. Kraemer of 126 Gifford

Avenue, Jersey City, N. J., died November 21, 1959, at the age of 54.

Class of 1931

Christopher C. Shaw of Wallingford, Pa., and formerly a Captain in the Medical Corps, United States Navy, died December 5, 1959.

Class of 1934

Isadore Tuerk was named Commissioner of Mental Hygiene by Governor Millard Tawes on May 16, 1960. Dr. Tuerk succeeds the late Dr. Clifton T. Perkins who died in November, 1959.

Dr. Tuerk who has been Acting Commissioner since December 1, 1959, has been for a number of years the Superintendent of the Spring Grove State Hospital in Catonsville, Md. The appointment of Dr. Tuerk has the strong backing of numerous medical groups throughout the State.

Dr. Tuerk's medical career has been largely in the field of psychiatry. Following his graduation, he served as an Intern at the Baltimore City Hospitals and was later Chief Resident in Psychiatry there. During World War II, he served as a lieutenant colonel and at the cessation of hostilities became Clinical Director of the Spring Grove State Hospital in 1946, becoming Superintendent in 1949.

Dr. Tuerk has been active on the Staff of both the University of Maryland and the Johns Hopkins University with ranks of Assistant Professor of Psychiatry at both institutions.

Class of 1935

Julius M. Waghelstein, internist who has been active on the Staffs of the Sinai and the Lutheran Hospitals, has recently been appointed Chief of Medicine at the Franklin Square Hospital.

A native of Montreal, Canada, Dr. Waghelstein came to Baltimore as a child. Following his graduation from the School of Medicine, he served an internship at Mercy Hospital and his residency at the Sydenham and Baltimore City Hospitals.

Class of 1937

I. Phillips Frohman of Washington, D. C., recently a speaker at the Medical Communications Day Program, sponsored by the *New York State Journal of Medicine* in cooperation with the American Medical Writers Association, held on May 14, 1960, in New York City. Dr. Frohman spoke on the topic, "How the Busy Practitioner Can Keep Up."

Class of 1941

Stanley E. Schwartz of 420 Lincoln Road, Miami Beach, Fla., has recently opened a suburban branch office at 1880 Northeast 163rd Street in North Miami Beach, Fla.

Class of 1942

Richard Carey is Assistant Medical Director of the pharmaceutical firm of Ayerst, McKenna, and Harrison with offices in New York.

Class of 1947

James Houghton has been active in the practice of Internal Medicine in Fargo, N. D., where he has been a member of the Dakota Clinic since 1954. Formerly Chief of Medicine, St. Johns Hospital in Fargo, Dr. Houghton was elected an Associate of the American College of Physicians in 1957 and a year later became an Associate Fellow of the American College of Cardiology. He has served as President of the North Dakota Society of Internal Medicine since 1958.

Class of 1952

Andrew J. Devlin has been recently certified by the American Board of Obstetrics and Gynecology. Dr. Devlin, who received his training at the St. Agnes Hospital of Baltimore, now has his offices in the First National Bank Building, Pullman, Wash.

Class of 1953

Arthur C. Knight recently presented a paper on the Tracheal Lobe at the Pacific Northwest Chapter of the American College of Chest Physicians. Dr. Knight is Superintendent of the Montana State Tuberculosis Sanatorium at Deer Lodge, Mont. His address is: Route #1, Galen, Deer Lodge, Mont.

Rafael Longo-Cordero presented a paper entitled "Advances in the Management of Hydrocephalus" at a recent meeting of the Puerto Rico Medical Association, Pediatric Section, held on February 10-13, 1960, San Juan. Dr. Longo is a former Resident in Neurologic Surgery at the University Hospital and is now engaged in the practice of neurosurgery in Puerto Rico.

Class of 1954

William M. Headley has been named Chief Resident in General Surgery at the Eugene Talmadge Memorial Hospital of the Medical College of Georgia, Augusta, Ga. Following his graduation, he served an internship at the Johns Hopkins Hospital in Surgery under Dr. Alfred Blalock, following which he served for two years at the National Institutes of Health in Washington. Later, he was appointed Assistant Resident in Surgery at the University of Virginia and for the past year has served as an Assistant Resident in General Surgery at the Medical College of Georgia.



MEDICAL SCHOOL SECTION

Dean's **LETTER**

*Dear Members of the Alumni and Friends of the
School of Medicine:*

The School of Medicine is very much aware of the need to increase the enrollment in Medical Schools to meet the increased demand for physicians to provide for adequate Medical Care of our expanding population.

Construction will soon start in the newly acquired Hecht Building to provide laboratory, classroom, and study space for an entering class of 128 Medical Students. This construction will take approximately one and one-half years to complete, and we expect the entering class of 1962 to be about a 25% increase over the current class enrolled.

This expansion will require your assistance in helping us to obtain high quality students and equipment necessary for improved instruction.

We hope that all of you will take time to visit the School and gain first-hand information on the developments on the Baltimore Campus and in the Medical School and University Hospital.

Sincerely,

WILLIAM S. STONE, M.D.
Dean

Hecht Building Construction Advances

DEAN STONE has recently announced the approval of the conversion plans for the Hecht building with a total of \$795,-350 scheduled for the Federal contribution, an equivalent amount to be appropriated from State of Maryland sources. The Federal grant must have final approval of the Surgeon General of the Public Health Service and the matching funds, of course, must be appropriated through legislative act.

The more than one and a half million dollars will be used to convert the existing structure into two primary facilities: the first being adequate laboratory space for research and for multi-purpose laboratories for the basic science instruction in the School of Medicine.

When completed, the conversion will allow the use of new techniques in teaching the basic sciences and will involve the construction of at least three special laboratories to be used by first and second year students. In these laboratories each student will have an assigned area consisting of a desk, equipment for research, and work space available to him at all hours. This will mean that the students can conduct experimental work in research in one place instead of many different laboratories scattered throughout the campus. In addition to the multi-purpose laboratories, each department (Pathology, Microbiology, Biochemistry, Pharmacology, and Physiology) will have rooms adjacent to the main laboratories where special equipment, exhibits, materials, and special apparatus can be installed or prepared, ready to move into the multi-purpose laboratory as the type of instruction changes from day to day. Thus, it will be possible to provide a

greater degree of coordinate laboratory instruction, a greater integration of the basic sciences and, of course, a much finer opportunity for original student research and development.

In addition to the multi-purpose laboratories, each department will have a section devoted to departmental research. There will be special apparatus rooms, animal rooms, and adjunct facilities. It is also planned that the newly created Department of Biophysics will occupy quarters in this building.

The remainder of the available space will serve to consolidate the business offices of the University and the plant maintenance departments, now scattered widely throughout the Baltimore campus buildings.

If plans progress according to schedule, anticipated occupancy will be sometime during 1963.

Postgraduate Committee Gets New Head

DR. PATRICK B. STOREY, formerly of the United States Veterans Administration Hospital in Baltimore, has been appointed Associate Professor of Medicine and Chairman of the Postgraduate Committee. Dr. Storey will direct the postgraduate program at the School of Medicine, replacing Dr. Howard M. Bubert who has been named Advisor to the Committee.

Dr. Storey is a graduate of Georgetown University School of Medicine, receiving his internship and basic training in pulmonary diseases at the District of Columbia General Hospital.

After service at the Fitzsimons Army Hospital, in 1955 he was appointed staff physician of the Baltimore Veterans Administration Hospital. The next

year he became Chief of the Medical Service and in 1958 he was named Director of Professional Services. He has been Assistant Professor of Medicine at the University of Maryland and the Johns Hopkins University School of Medicine. Dr. Storey is a Diplomate of the American Board of Internal Medicine, the American Board of Pulmonary Diseases and is an associate of the American College of Physicians, as well as holding fellowship in the American College of Chest Physicians. He has served on numerous governmental committees relating to the chemotherapy of tuberculosis.

Department of Pathology Receives A. E. C. Grant

AN AWARD of \$10,000.00 from the United States Atomic Energy Commission to the Department of Pathology of the School of Medicine has been recently announced. With the aid of the new equipment purchased through this grant, a training program under the direction of Dr. Lester Kiefer, Assistant Professor of Pathology, will expand the course of study to include now active experimental work concerning the biological effects of radiation.

The experimental approach to the study of pathology, which Dr. Kiefer introduced to the curriculum in 1956, has been highly successful in encouraging medical students to study pathological processes in living tissues as a continuous biologic process. With the new equipment purchased through the grant, the students will now be able to observe the continuing effects of radiation and its effects on tissues. In addition, radio-isotope techniques will be made available not only for basic training but for re-

search projects now in the planning stage.

Date For Fourth Annual Pincoffs Lecture Set

**Dr. Bernard J. Alpers of Philadelphia
To Be Speaker**

THE Fourth Annual Maurice C. Pincoffs Lectureship in Medicine will be given by Dr. Bernard J. Alpers, well-known neurologist of Philadelphia.

The lecture will be held the evening of Monday, December 5, in Chemical Hall of the School of Medicine.

Maryland Senior Wins National Prize

MARTHA STAUFFER, a member of the senior class (1960) at the School of Medicine, was the winner of the 1960 Student Prize-Essay Competition of the *New England Journal of Medicine*. Dr. Stauffer's prize-winning essay reported the clinical and biochemical features of a fatal case of oxalosis, a rare and little-known disorder. The case will be published in a forthcoming number of the *New England Journal of Medicine*. A cash award of \$200.00 was included in the honor.

University Hospital Honors Veteran Employees

AT EXERCISES early in the Spring, Miss Adelaide C. Belbin of the Admitting Office of the University Hospital was honored for a 35-year record of service and was presented a service award by Dr. Albin O. Kuhn, Executive Vice President of the University of Maryland. Presented 25-year awards were Miss Margaret Riffle, Veteran Nurse, and Peggy B. Thomas. Fifteen-year awards went to Emily R. Boyle, Marie J. Coison, Annie Finch, and Menora Johnson.

Faculty

NOTES

DR. ELEANORE M. JANTZ, former Professor of Psychology at the Maryland State Teachers College in Towson, has been appointed Assistant Professor of Medical Psychology in Pediatrics. Dr. Jantz will serve as a consultant in the University Hospital's central evaluation clinic for children. Dr. Jantz holds her Doctor of Philosophy Degree in Psychology from Northwestern University.

DR. HENRY J. L. MARRIOTT, Associate Professor of Medicine, delivered the Annual Wyeth Lectureship of the Delaware Valley Chapter of the American Medical Writers' Association held on May 16 at the College of Physicians in Philadelphia. Dr. Marriott's topic was: "Do's and Don'ts in Medical Writing."

DR. HARLAN I. FIRMINER, head of the Department of Pathology at the School of Medicine, has been awarded a grant of \$9,720.00 to continue study of the relationship between adrenal cortical hormones and cancer of the liver. Experiments will include a study designed to determine which of the many adrenal hormones is the most effective in preventing cirrhosis and cancer of the liver in rats fed cancer-inducing chemicals along with their food.

DR. RUSSELL S. FISHER, Professor of Forensic Pathology, has been named to the Editorial Board of a newly formed publication *Medicolegal Digest*. Dr. Fisher will also be joined by Dr. Manfred S. Guttmacher, chief medical officer

of the Supreme Bench of Baltimore and also Associate Professor of Psychiatry at the School of Medicine.

DR. CARLO A. CUCCIA, Associate Professor of Radiology, spent the summer in Europe. Dr. Cuccia gave a series of lectures relating to the field of radiation therapy of cancer at the Fondation Curie in France. Dr. Cuccia has been active with Dr. Fernando Bloedorn in the development of supervoltage irradiation of bronchogenic carcinoma and carcinomas of the bladder and urethra.

DR. MORITZ MICHAELIS addressed a recent meeting of the Biochemical Society at its meeting in Cambridge, England. Dr. Michaelis spoke on the subject "Reductases, Glycolysis and Protein Content of Rat Brain after Shock with and without Tranquilization."

DR. HARUTADA NINOMIYA of Tokyo University is now working in the Department of Surgery under the direction of Dr. Robert W. Buxton. Dr. Ninomiya has recently collaborated with Dr. Moritz Michaelis on certain experimental effects of shock as regards the rat brain.

DR. HARRY M. ROBINSON, JR., Professor of Dermatology, spent a portion of the summer visiting hospitals and research laboratories in the United Kingdom. Dr. Robinson was invited to conduct rounds in the Leeds Infirmary and the Royal Infirmary of Edinburgh.

DR. JOHN A. WAGNER, Professor of Neuropathology, attended the London meeting of the International Academy of Pathology and represented the School of Medicine at the Centennial celebration of the National Hospital, Queen Square. Both meetings were held in June, 1960.

New Science Library Opens

WITH the moving of books from many now-scattered libraries of medicine, dentistry, pharmacy, nursing, and psychiatry, a consolidation of all of the sciences libraries now becomes a reality with the opening of the new building, the Health Sciences Library, at the corner of Lombard and Greene Streets. As yet, the new building has not yet been officially named. Portions of the building, including the auditorium, have already been in use.

Among the books that will now be on display are the 400-odd volumes purchased from the estate of Dr. John Crawford when the Medical Library was founded in 1813. This collection will be displayed in the Historical Book Room on the third floor, which will house separate historical collections of the schools of dentistry, medicine, nursing, and pharmacy.

All other books will now be combined in stacks extending through the three floors of the building, which is so constructed that new stack floors can be added when the present capacity of 200,000 volumes has been reached.

Many New Features Included in the Building

The main floor at entrance level has two display windows in the marble wall of the lobby. Just inside are the main circulation desk, card catalogue area, and two large reading rooms. Administrative offices, technical services of the library, and a browsing room for recreational reading are also on the main floor. An elevator and stairways lead from the stacks on this floor to stacks on the floors above and below.

On the ground floor there is a room for audiovisual services, such as recordings and microprint readers, with 18 faculty study rooms for bibliographical research. Separate ground floor entrances lead to a 416-seat auditorium and a special reading room for night school students.

The top floor of the building provides a large book stack area, the historical book room, and nine group study rooms where students may study together. There is also a Maryland Room containing publications of the four professional schools, as well as source material concerning professors, students, and alumni.

Individual study carrels, some sound-proofed for typing, line the walls around all stack areas. These are for the use of readers who prefer to study alone rather than in the group study areas or large reading rooms. In all, reading rooms and studies will seat about 400.

Modern color schemes add brightness to the rooms. Even the book stacks are finished in basic colors of spruce green and terra cotta, that are used throughout the library. The historical book room, lined with mahogany bookshelves and paneling, is furnished in the style of 1813 in shades of deep blue and pale gold, an idea taken from a colored illustration of an early herbal in the Crawford Collection.

A browsing room on the main floor is furnished in green and dull gold. It will be called the Green Room, after the "green room" of the early theater, where actors relaxed between cues. Various contrasting colors have been chosen for the group study rooms.

The auditorium, already in use, has red upholstered seats against green walls. The stage is finished in paneled oak.

The building will be equipped with a paging system audible throughout the building. The library is air-conditioned throughout.

Its staff now numbers 16. Mrs. Ida M. Robinson, Librarian, is in charge of the entire operation. Hilda E. Moore

and five others serve as certified medical librarians. The new library is part of the University's system of libraries, headed by Mr. Howard Rovelstad, Director of Libraries.

Constructed of Glengarry brick and white stone, the library has three floors for public use and a basement for utilities. Its cost to the State was a little more than \$1,250,000.

**THE UNIVERSITY OF MARYLAND
SCHOOL OF MEDICINE**

will offer

A Postgraduate Course in

NEUROPATHOLOGY FOR PATHOLOGISTS

encompassing five week-ends, one each in November and December, 1960, and January, February, and March, 1961

Curriculum will include applied neuro-anatomy; technique of gross and microscopic examination of the brain; staining methods; the neurological C.P.C.; lectures on basic neuropathology, tumors, trauma, surgical neuropathology, infections, and degenerative diseases; professional inter-relations with neurological services; practical experience of cutting, blocking, and microscopic study of selected specimens.

For full information please write or phone:

THE POSTGRADUATE COMMITTEE OFFICE

**University of Maryland School of Medicine
522 W. Lombard Street, Baltimore 1, Maryland
(Plaza 2-1100, ext. 278)**

III. The Department of Preventive Medicine and Rehabilitation

BETH WILSON

WHAT WAS very probably the first chair of hygiene and preventive medicine in any American medical school was established in 1833 when Dr. Robley Dunglison was appointed Professor of Materia Medica, Hygiene, and Medical Jurisprudence at the University of Maryland.

More than 100 years later, in 1948, Dr. Maurice C. Pincoffs of the University of Maryland pioneered in establishing Maryland's unique Medical Care Program, offering consultation, diagnosis, and treatment to welfare recipients.

When Dr. Pincoffs established the medical school's Department of Preventive Medicine and Rehabilitation in 1954, he also became director of one of the six clinics of the Baltimore City Medical Care Program, operated at University Hospital under a contract with the City Department of Health.

Dr. Huntington Williams, who joined the staff of Dr. Pincoffs' new department when it was formed, had since 1932 been Professor of Hygiene and Public Health in the medical school's Department of Medicine as well as Commissioner of Health for the City of Baltimore.

Dr. George Entwisle joined this distinguished group of pioneers in public health when he became Professor and Head of the Department of Preventive Medicine and Rehabilitation in 1958,

succeeding Dr. Pincoffs upon his retirement. Like his predecessors, Dr. Entwisle is expanding departmental activities into other avenues of medicine—in such projects as the Adult Evaluation Clinic and the Home Care Program for Cardiovascular Patients. Under his leadership the principles of preventive medicine that were established here in 1833 are being extended on all fronts of the department's activities—teaching, research, and service to the community.

Teaching

In keeping with the modern view that illness goes far beyond the body functions or tissues immediately involved, medical students at the University of Maryland are taught from their freshman year to think not only of disease but of its origin—not only what is wrong with the patient but why he is ill.

In the Department of Preventive Medicine and Rehabilitation they are first introduced to biostatistics by Dr. Matthew L. Tayback, Assistant Commissioner of Health for Baltimore City and Associate Professor of Biostatistics at the Medical School. As sophomores, they are required to apply their biostatistical skill in evaluating published research, so that they learn to be more discriminating in their reading.

Then, because preventive medicine is of necessity community medicine, the students learn the organization and functions of the various city and state



Dr. George Entwisle.

agencies to which they may send patients for help. Dr. Entwisle, Dr. Williams and his staff at the Baltimore City Department of Health, and other faculty members from various departments of the medical school explain the general principles of public health and the sanitary measures necessary to protect food, water, air, and housing; they discuss accidents and other emergencies, radiation hazards, and the epidemiology of specific diseases.

The epidemiology of noninfectious diseases is also taught, particularly in the junior year, in lectures and demonstrations about cardiovascular diseases, cancer, maternal and child health, occupational diseases, mental hygiene, and genetics in clinical medicine—to name only a few of the subjects discussed.

Dr. Alexander S. Dowling, Medical Director of the State of Maryland Chronic Disease Hospitals and Associate Professor of Preventive Medicine in

the department, describes programs for chronic illness, and Dr. Paul F. Richardson, Assistant Professor of Preventive Medicine and Rehabilitation, demonstrates rehabilitation methods. Dr. Tayback lectures on medical economics and the junior medical students participate in University Hospital's Medical Care Clinic.

Here the emphasis is on definitive care and rehabilitation. Each medical student in the program during his junior year follows the progress of a family in an effort to improve housing, nutrition, and general health, as well as economic independence. He thus gains insight into the social, economic, and family conditions that often contribute to disease. About 400 patients are examined in the student teaching program and about 90 are selected for intensive follow-up. Next year this program may be broadened to include non-welfare patients from hospital wards, as well as Medical Care patients.

Students in the department also receive instruction at the new Baltimore Western Health District Building under the direction of Dr. Wilson M. Wing and his staff at the Department of Health.

They are also taught the importance of such techniques as gait analysis and muscle testing in physical diagnosis. At Montebello, the state hospital for chronic illness and rehabilitation, junior and senior students are shown the important contributions of physical medicine to the rehabilitation of patients with such disorders as hemiplegia, spinal cord injuries, arthritis, and progressive neurological diseases. Special emphasis is placed on rehabilitation of the hemiplegic and spinal cord injury patients and care of their complications (decubitus ulcers and neurogenic bladders).

Audiovisual aids play an important part in the teaching of rehabilitation. Last year a film was made recording the progress of a quadriplegic patient under the care of Dr. Florence Mahoney. Other films are planned, on hemiplegia, for example, and on the over-all subject of gait.

Mr. Todd Frazier conducts two seminar courses in biostatistics, which thus far have been attended by members of at least a dozen departments representing the Schools of Medicine, Dentistry, and Pharmacy. A Consultation Service in Biostatistics is provided by Dr. Bertram Haines, and many faculty members have been given help in planning medical surveys and trials.

Department members give lectures and clinical demonstrations in the School of Physical Therapy. Dr. Entwisle heads the school's advisory committee and Dr. Paul Richardson is its medical director. The physical therapy curriculum, accredited by the American Medical Association, was established in 1956 and is the only one of its kind in the state.

Owing to the rapid expansion of rehabilitation programs throughout the country for treatment of the injured, the chronically ill, and the aged, the demand for physical therapists is such that more than three times as many jobs are open as there are qualified persons to fill them.

Research

1) *The Adult Evaluation Clinic*, set up as a research project in the late winter of 1958-59 with the aid of \$40,000 from the Maryland State Department of Health, had seen about 220 patients by June 30, 1960.

The staff of the clinic consists of two internists—Dr. Entwisle and Dr. Aubrey Richardson—three part-time physicians



Dr. Aubrey D. Richardson.

and a number of other consultants, a psychiatric social worker, Miss Lydia M. Blakeslee, and two secretaries. A vocational counselor from the Division of Vocational Rehabilitation also participates.

Patients who come to the clinic, on the third floor of the Outpatient Building, present complex medical problems because they have so many disabilities. In requesting referrals from other Baltimore hospitals, private physicians, and other agencies, Drs. Richardson and Entwisle asked for "thorny problems," and as a result were sent patients who probably could not have been handled by any less than the array of medical talent available at the clinic.

The purpose of the clinic is to plan rehabilitation for patients to the greatest degree possible. The referring physician receives not only a complete medical and social evaluation of the patient but



Dr. Paul F. Richardson

also detailed recommendations for his treatment and vocational rehabilitation. The service is free.

Many patients are mentally retarded. Others present problems in arthritis, orthopedics, neurology, and restorative surgery. Some patients have proved to be too sick to work, but most of those who could be rehabilitated have been placed in some kind of job—perhaps in a sheltered workshop such as the Goodwill Industries, or in the Workshop for the Mentally Retarded.

Data are now being evaluated to determine 1) whether disabled people can be properly studied by means such as this and matched to a plan of employment based on valid needs for their services; and 2) what such a project costs. Another important aspect of the research is to find out what resources are available in the community to help rehabilitate such patients, and what resources are needed.

2) *A Home Care Project for Patients with Cardiovascular Disease* was begun July 1, 1960 under the direction of Dr. Entwisle and Dr. Aubrey Richardson.

This project was the outgrowth of a recommendation of the Home Care Committee of the Heart Association of Maryland, of which Dr. Richardson is the chairman, and is supported by a three-year annual grant of \$32,000 from the local and national Heart Associations and the Office of Vocational Rehabilitation.

Besides Drs. Richardson and Entwisle, the staff, housed in the Western Health District Building, includes the half-time services of a physician, Dr. George M. Ramapuram, a full-time social worker, Mrs. Susan Smith, and a full-time medical secretary.

The program, the only one of its kind in the country for heart patients alone, might be called a hospital extension service. Patients are eligible if they need home care and if it is feasible for them. Those selected receive home visits from doctors, nurses, and social workers but go to the hospital for any necessary tests. Medications are provided, and if someone is needed to keep house and cook, these services may also be obtained, through the Family and Children's Society. If another member of the family can care for the patient, he or she is trained by the Red Cross as a nurse's aide or homemaker.

The object of this research is to evaluate the capacity of the patient to follow instructions and the feasibility of home care as a substitute for hospitalization. A controlled study is being conducted to determine whether home care shortens the hospital stay and prevents recurrent hospitalization, and how much it costs.

In this study Miss Ethel Miller, nutritionist at University Hospital, and other members of her staff are also co-operating with the Home Care team in evaluating the patient's ability to follow dietary instructions.

3) *A study of the relationship between bacteriuria and prematurity* was initiated in the spring of 1960 by Drs. Matthew Tayback, Maureen Henderson, and George Entwisle, in cooperation with the Department of Obstetrics and Gynecology at University Hospital. The prevalence of significant bacilluria is being studied among patients delivered at the hospital and also among patients visiting one of the prenatal clinics of the Baltimore City Health Department. Three summer fellows are participating in the project, with the support of the State Health Department.

Community Service

Between 18 and 20% of the total city Medical Care population is handled at University Hospital's clinic—this amounted to 7,115 persons in 1959.

The scope of the program is tremendous. All welfare patients are eligible, and although home and office care is provided by a personal physician of the patient's choice, the hospital provides 1) a general physical examination, including all necessary laboratory and X-ray examinations; 2) a report to the patient's physician regarding any need for treatment or special supervision; 3) upon request by the physician, any necessary examination or advice by specialists, or any further needed laboratory or X-ray examinations.

Dr. Aubrey D. Richardson, Assistant Professor of Preventive Medicine and Rehabilitation, directs the Medical Care Clinic, which is located on the second

floor of the Outpatient Building. Dr. Maureen Henderson, Instructor in Preventive Medicine and Rehabilitation, is Associate Director of the Clinic.

Presumably because of insurance benefits to older people, the relative number of elderly clients in the program has steadily decreased while the number of children has increased. Dr. Mary S. Farber as part-time pediatrician, has carried a constantly heavier patient load, and pediatric service to well children has recently been limited to those not followed in well-baby clinics and not eligible for school health services.

The staff also includes four consultants in internal medicine and two in gynecology and obstetrics. Miss Theresa Novak, the social service worker, handles the liaison between patients and the Department of Public Welfare, and arranges for nursing care and referrals to other agencies. Miss Marie E. Luttrell is chief clerk, Miss Sue H. Green general staff nurse, and there are five stenographers and typists and two hospital attendants.

The service of the Adult Evaluation Clinic, which saw 220 patients in 1959-60, has already been described in connection with the research activities of the department.

The Physical Therapy Clinics also carried a heavy patient load during 1959-60:

	<i>Outpatient Hospital Department</i>	
Patients	742	1,006
Visits	3,972	4,028
Treatments	14,012	16,148
M.D. examinations	551	1,027

Dr. Paul Richardson is the only full-time physician, but he is assisted in the outpatient clinic by Dr. Kurt Raab, Chief of Physical Medicine and Rehabilitation



Quadriplegic patient and Dr. Mahoney.

Service, Veterans Administration Hospital, Fort Howard, Md., and Dr. Frederick Balsam, Consultant in Physical Medicine and Rehabilitation to the Social Security Administration, both of whom volunteer their services without salary.

Miss Elizabeth Gibb is in charge of the in-patient clinic on the eighth floor of the hospital, where she is assisted by Mrs. Phyllis Schiller; and Miss Mary A. Elliott handles the outpatient clinic on the second floor in the Outpatient Building, with the assistance of Miss Susan MacQueen. A clerk and two aides serve the combined clinics.

Dr. Richardson is also consultant for the house staff in the diagnosis and treatment of patients in physical medicine.

A prosthetic clinic, operated by the Division of Physical Medicine and Rehabilitation in cooperation with the hospital's Division of Orthopedics and General Surgery, was recently started.

The Office of Vocational Rehabilitation has made a \$25,000 grant to the division for training in physical medicine. These funds will be used to employ another physiatrist and a vocational counselor and to support summer student trainees in rehabilitation.

Biographical Notes

GEORGE ENTWISLE, M.D., *Professor of Pre-*

ventive Medicine and Rehabilitation and Head of Department

Dr. Entwisle is a graduate of the University of Massachusetts and received his medical degree from Boston University School of Medicine. He interned at Massachusetts Memorial Hospital, served his residency in medicine at Evans Memorial Hospital, and held graduate fellowships in physiology and medicine at Boston University, where he was also instructor in medicine and lecturer in physiology for three years.

He served in the U. S. Army during World War II and again in the Medical Corps from 1952 to 1954.

Dr. Entwisle came to the University of Maryland School of Medicine in 1956 as Assistant Professor of Medicine, and was appointed to succeed Dr. Maurice C. Pincoffs as Professor and Head of the Department of Preventive Medicine and Rehabilitation on July 1, 1958.

He is a member of Sigma Xi, the New York Academy of Sciences, and the American Federation of Clinical Research, and a diplomate of the American Board of Internal Medicine.

HUNTINGTON WILLIAMS, M.D., *Professor of Hygiene and Public Health*

Dr. Williams, a native Baltimorean, is a graduate of Harvard College. He received his medical training at The Johns Hopkins School of Medicine, where he was awarded an M.D. degree in 1919 and a Doctor of Public Health degree in 1921.

He was a staff member of the League of Red Cross Societies in Geneva, Switzerland, and held various public health posts with the New York State Department of Health and the Albany Medical College before returning to Baltimore in 1931 as Director of Health of the City.

He has held his present position, as City Commissioner of Health, since 1932. He also lectures at both medical schools in Baltimore—Johns Hopkins as well as the University of Maryland.

Dr. Williams has held many important posts in public health and has been awarded many honors, both in this country and abroad. He is on the public health administration panel of the World Health Organization; is an honorary fellow of the Society of Medical Officers of Health and of the Royal Society

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of Health in England; a fellow of the American College of Preventive Medicine; a former vice-president of the American Public Health Association and of the Medical and Chirurgical Faculty of Maryland; and former president of Delta Omega.

He has written extensively about public health administration, housing, prevention of lead paint poisoning, and other medical subjects generally.

ALEXANDER S. DOWLING, M.D., *Associate Professor of Preventive Medicine*

Dr. Dowling is a graduate of DePauw University and attended Harvard Graduate School for a year before entering Harvard Medical School, from which he was graduated in 1930. He trained in internal medicine from 1931 to 1934 at Lakeside Hospital in Cleveland, during which time he was also Instructor in Clinical Pathology at Western Reserve. He also served as Instructor in Neurology at Alfred State University in New York.

He left private practice to serve as Commander, after serving as Captain in the U. S. Navy during World War II. Following the war he entered private practice. In 1947 he was appointed Chief of Medical Service at the Veterans Administration Center in Bath, New York, where he later became Chief of Professional Services. Dr. Dowling now holds the rank of Captain, Medical Corps, U. S. Naval Reserve.

Dr. Dowling was appointed Medical Director of the state's Chronic Disease Hospitals in October 1955 and was named Associate Professor of Preventive Medicine in the Department of Preventive Medicine and Rehabilitation at the medical school in July 1956.

He is a former member of the Steuben County Medical Society and New York State Medical Society, a fellow of the American College of Physicians, and former fellow of the American Cancer Society.

FLORENCE I. MAHONEY, M.D., *Associate Professor of Physical Medicine and Rehabilitation*

Dr. Mahoney was born in East Cleveland, Ohio and attended Western Reserve University and the University of Wisconsin, where she received a B.S. degree in Physical Education and an M.S. degree in anatomy.

In 1937 she was awarded an M.D. degree at Woman's Medical College and the following year served her internship at Wisconsin General Hospital.

Her postgraduate training includes two months in the Gynecology Service at Johns Hopkins Hospital, a Baruch Fellowship in Physical Medicine at Wisconsin General Hospital and the Mayo Clinic, and courses in physical medicine at the Georgia Warm Springs Foundation and the American Congress of Physical Medicine.

She has taught physical education at Ohio Wesleyan University, the University of Minnesota, and the University of Wisconsin; and has held posts as college physician at Mary Baldwin College, Stephens College, and Pennsylvania State College. From 1947 to 1955 she was Chief of the Physical Medicine and Rehabilitation Service of Kennedy Veterans Administration Hospital.

Since 1955 Dr. Mahoney has been Director of Physical Medicine and Rehabilitation for the Chronic Disease Hospitals of the State of Maryland and Associate Professor of Physical Medicine and Rehabilitation at the University of Maryland School of Medicine.

She is a member of many professional societies, including the American Congress of Physical Medicine and Rehabilitation, The American Academy of Neurology, and the American Academy of Physical Medicine and Rehabilitation. She is a fellow of the American College of Physicians. Her publications include several reports of the rehabilitation of hemiplegic patients and of chronic neurologic patients including paraplegics.

Last year Dr. Mahoney received an award from Governor J. Millard Tawes for helping the handicapped; she was one of eight chosen for this honor by the Governor's Committee to Promote Employment of the Handicapped. The nomination was made by the Medical and Chirurgical Faculty of the State of Maryland.

MATTHEW L. TAYBACK, Sc.D., *Associate Professor of Biostatistics*

Dr. Tayback is a graduate of Harvard College. He received a master's degree from Columbia University and a doctorate in biostatistics from The Johns Hopkins School of Hygiene.

After a period in the U. S. Army during World War II, he became senior statistician for the New York State Health Department and later Bureau and Section Director for Biostatistics of the Baltimore City Health Department.

Since 1957 he has been Assistant Commis-

sioner of Health, Research, and Planning for the City Health Department.

He has been associated with the University of Maryland School of Medicine since 1952 and is also Research Associate at Johns Hopkins.

Dr. Tayback has been a consultant to the World Health Organization and now serves as consultant for the U. S. Army Chemical Corps.

He is primarily concerned from a research point of view with the measurement of the extent of emotional maladjustment in children, factors associated with prematurity, and methodology of community morbidity surveys.

PAUL FREDERICK RICHARDSON, M.D., *Assistant Professor of Physical Medicine and Rehabilitation*

Dr. Richardson is a native of Baltimore. After 3 years of military service in World War II, he attended Baylor University and received his medical degree in 1950 from the University of Maryland School of Medicine.

He served an internship at Mercy Hospital, and residencies in internal medicine and in physical medicine and rehabilitation at the Veterans Administration Hospital, Fort Howard. He also took short courses in cerebral palsy at Children's Rehabilitation Institute and in physical medicine and rehabilitation at New York University and at Veterans Administration Hospitals in Bronx and Manhattan.

He served as instructor in medicine at Duke University School of Medicine in 1954-55 and was also Chief of the Physical Medicine and Rehabilitation Service at the Durham Veterans Administration Hospital.

From 1955 to 1956 Dr. Richardson was assigned to the U. S. Naval Hospital in Portsmouth, Va., where he was in charge of physical therapy and occupational therapy in the Orthopedic Service.

From May 1956 to July 1958 he was Chief of the Physical Medicine and Rehabilitation Service at the Veterans Administration Hospital, Fort Howard. His appointment to Dr. Entwisle's staff was made in 1958. He serves as a consultant in the Adult Evaluation Clinic and the Children's Evaluation Clinic at University Hospital.

Dr. Richardson is a member of the Baltimore City Medical Society and American Congress of Physical Medicine and Rehabilitation.

He is a diplomate of the American Board of Physical Medicine and Rehabilitation.

AUBREY D. RICHARDSON, M.D., *Assistant Professor of Preventive Medicine and Rehabilitation*

Dr. Richardson is an alumnus of the University of North Carolina and also received his first two years of undergraduate medical education there.

He was awarded an M.D. degree from the University of Maryland School of Medicine in 1951, served his internship and residency at University Hospital, and has since then remained here on the faculty. He was first Fellow in Cardiology (1954-56), then Associate in Medicine and Preventive Medicine (1956-58) and Acting Director of the Cardiac Catheterization Laboratory (1957-58), and since 1959 has been Assistant Professor of Preventive Medicine and Rehabilitation.

Dr. Richardson is also Director of the Medical Care Clinic, Director of the Adult Evaluation Clinic, Co-Director of the Home Care Project for Patients with Cardiovascular Disease, and head of the Department of Electrocardiography of The Maryland General Hospital.

He is a trustee of the Maryland Heart Association and Chairman of its Home Care Committee, and a member of the Board of Directors of the National Rehabilitation Association.

MAUREEN HENDERSON, D.P.H., *Instructor in Preventive Medicine and Rehabilitation*

Dr. Henderson attended the Convent de La Sagesse, Newcastle-on-Tyne, England, and received her medical education at the Medical School of Kings College, Durham University, where she was awarded the degrees of M.S., B.S., and D.P.H. and won the Duke-Armstrong Scholarship in Epidemiology. She also completed a course under Professor Bradford Hill at London University on the application of statistical method to medicine.

She served as house officer in the Royal Victoria Infirmary, Newcastle-on-Tyne (1949-50), and as a Principle in General Practice in Wallend, Northumberland in a partnership of three doctors with a National Health Service caring for 8,000 patients (1950-52).

Before studying for the Diploma in Public Health she spent some time as a Medical Officer at Knightwick Sanatorium (Tuberculosis) in Worcester. In 1956 Dr. Henderson

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held the Anna Fuller Fellowship in the Epidemiology of Cancer at St. Bartholomew's Hospital, London, under the direction of Professor, Sir Ernest Kennaway. The fellowship was associated also with the Office of the Registrar General for England and Wales and the first few months were spent in appraising the national system of cancer registration and the epidemiological value of the data.

In 1957 she was appointed to the Scientific Staff of the Medical Research Council as Clinical Epidemiologist to the Group for Research on Atmospheric Pollution at St. Bartholomew's Hospital.

Dr. Henderson is a member of the Royal Society of Medicine, the Royal Statistical Society, and the British Medical Association.

She joined the staff of the Department of Preventive Medicine and Rehabilitation in 1960.

WILSON MUMFORD WING, M.D., *Associate in Preventive Medicine and Rehabilitation*

Dr. Wing was born in Washington, D. C., and is a graduate of Harvard College and Trinity College, Cambridge University, where he was awarded an M.A. degree. He received a medical degree from the College of Physicians and Surgeons, Columbia University, and a Master of Public Health degree from The Johns Hopkins University.

After interning at The Babies Hospital, Presbyterian Medical Center, New York City, and Children's Hospital, Boston, he served a residency at Harvard Medical School and worked as a research fellow in the Department of Allergy at Roosevelt Hospital.

During World War II he served in the South Pacific as Lieutenant Colonel in the U. S. Army in malaria control and was Acting Chief of the Preventive Medicine Section, AFPAC at the end of his military service.

As a fellow of the International Health Division of the Rockefeller Foundation, Dr. Wing participated in the program of formal training in public health at Johns Hopkins and at the Planning Headquarters of the Health Insurance Plan of Greater New York. On completion of the fellowship, he joined the staff of the IHD and was its representative in Great Britain for 18 months.

From 1948 to 1956 he was Associate Professor of Public Health Administration and Head of the Department of Medical Care and Social Medicine of The Johns Hopkins Uni-

versity School of Hygiene and Public Health.

He has been a medical consultant to the International Cooperation Administration and the World Health Organization.

Dr. Wing's appointment at the university coincided with his appointment in November 1959 as Health Officer of the Western Health District, Baltimore City Health Department.

He has published reports of studies in allergy, scrub typhus, and of birth control in Puerto Rico.

BERTRAM W. HAINES, B.S., Sc.D., *Associate in Biostatistics*

Mr. Haines is an alumnus of Arizona State College and received a doctorate from The Johns Hopkins School of Hygiene and Public Health.

He was for three years statistical clerk for the Mayo Clinic and in 1955-56 held a fellowship at Johns Hopkins. In 1956 he was appointed Director of the Bureau of Medical Care Research for the Baltimore City Health Department and the following year became an Associate in Biostatistics in the Department of Preventive Medicine and Rehabilitation at the medical school.

He is a member of the American Statistical Association and the Biometric Society. His research interests concern the application of experimental models to the basic medical sciences.

LYDIA M. BLAKESLEE, A.M., M.S.S., *Instructor in Preventive Medicine and Rehabilitation (Social Service)*

Miss Blakeslee is a graduate of the University of California at Berkeley and received a Master of Social Science degree from Smith College School for Social Work. She has done field work at the Institute for Juvenile Research in Chicago and graduate study at the University of Chicago School of Social Service Administration.

She had a decade of experience in California where she was for a time Chief of Social Service, Los Angeles County Mental Hygiene, and later Superintendent of the Los Angeles County Juvenile Hall.

She also spent some time in Hawaii, where she taught community organization at the University of Hawaii and later became Director of the County of Hawaii Public Welfare Commission.

During the war she joined the American

National Red Cross and was made Director of Service in Military Hospitals for the Eastern Area.

In recent years Miss Blakeslee has held positions with the U. S. Children's Bureau in Washington, D. C., and in Montgomery County, where she was director of the Montgomery County Health Fund (a Community Chest-sponsored agency), and later director of the Planned Parenthood League of Montgomery County.

Since 1956 she has been field representative of the National Association for Mental Health and acts as consultant for chapter associations in seven states and the District of Columbia.

Miss Blakeslee joined the staff of the Department of Preventive Medicine and Rehabilitation in February 1959.

She is a member of several professional societies, including the American Association of Social Workers and the American Association of Psychiatric Social Workers, and has published articles on juvenile delinquency.

MARY STREETER FARBER, M.D., *Instructor in Preventive Medicine and Rehabilitation*

Dr. Farber is a native of Baltimore and a graduate of Bryn Mawr School and Vassar College. She received her M.D. degree from The Johns Hopkins University School of Medicine and served an internship and residency in pediatrics at Union Memorial Hospital.

As a fellow in pediatrics at The Johns Hopkins Family Clinic in Medicine she conducted a survey of congenital syphilis and Lansing virus.

From 1948 to 1956 Dr. Farber worked part-time in Well Baby Clinics and conducted school examinations in public and private schools.

Since the summer of 1956 she has been Consultant in Pediatrics for the University Hospital Medical Care Clinic, and since 1957 Instructor in Preventive Medicine and Rehabilitation in the medical school. She also holds an

appointment as Instructor in Public Health Administration at Johns Hopkins.

TODD M. FRAZIER, B.S., M.S., *Lecturer in Biostatistics*

Mr. Frazier was graduated from Kenyon College and received a master's degree from The Johns Hopkins School of Hygiene and Public Health.

He was a statistician at the Medical Research Laboratory of the Chemical Corps at Edgewood for two years and since 1954 has been Director of the Bureau of Biostatistics of the Baltimore City Health Department.

Since 1957 he has lectured in biostatistics in the Department of Preventive Medicine and Rehabilitation. He is also a Research Associate in the Department of Obstetrics at Johns Hopkins Hospital.

Mr. Frazier is consulting biostatistician for The Hospital for the Women of Maryland and secretary of the Joint Anesthesia Study Committee of the Baltimore City Medical Society and City Health Department. He is also a member of the Working Group on Maternal and Perinatal Mortality of the National Public Health Conference on Records and Statistics.

His research interests are in the area of epidemiology of reproductive wastage, including congenital malformation, epilepsy, and other neurological defects.

THERESA M. NOVAK, B.S., R.N., *Associate in Preventive Medicine and Rehabilitation (Social Service)*

Miss Novak is a graduate of the Georgetown University School of Nursing and received a B.S. degree in nursing education at the University of Maryland.

She studied public health nursing at Catholic University of America.

She has been a social service worker in the department since March, 1959. Miss Novak is also Consultant in Public Health Nursing and the Social Services to the student teaching program in the Department of Preventive Medicine.

Publications of the Staff of the School of Medicine 1958-1959

The following list includes articles which appeared during the year, 1958-59 as listed in the departmental annual reports on file in the office of the Dean, School of Medicine. A compilation of the papers published during the academic year, 1959-60 will appear in the April, 1961 BULLETIN, and will be published annually thereafter. ED.

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Baltimore 1, Maryland

"Grant me strength, time and opportunity to correct what I have acquired, always to extend its domain; for knowledge is immense and the spirit of man can extend infinitely to enrich itself daily with requirements. Today he can discover his errors of yesterday and tomorrow he may obtain a new light on what he thinks himself sure of today."

—MAIMONIDES

The University will offer two new postgraduate courses this year which will be of special interest to physicians in general practice, one devoted to the general field of medicine and the other to electrocardiography.

Basic Electrocardiography

A three-day concentrated course devoted to a study of the principles of electrocardiography and the interpretation of the more frequently seen abnormalities will be given by Dr. Leonard Scherlis and his staff in January 1961. The keynote of this short course will be the use of EKG diagnosis in office practice. Lectures, slide material, and EKG readings in given clinical situations will be utilized. In the interests of personalized instruction and in order to permit free discussion, enrollment in this course will be limited.

First Annual Course in Clinical Practice

The first of a proposed series of annual courses in clinical practice will be given in March 1961. This will be a five-day intensive course designed to provide both refresher and new information in the many fields of particular interest to the general practitioner. Sessions will be devoted to 1) Management of Psychosomatic Problems in Practice, 2) Infectious Diseases and the Agents Used in their Treatment, 3) Ear, Nose, and Throat, 4) The Eye, 5) Pediatrics, 6) Urology, 7) Applied Physiology (circulation, bile pigment metabolism, diabetes mellitus, and heart failure), and 8) Problems in the field of General Surgery of Particular Concern to the Practicing Physician. This course will be designed so that physicians may attend it in its entirety or they may choose any portion of it which may be of greater interest or more suitable to their time schedules. It is planned to offer this 5-day intensive course each year with the content and structure varied to suit the needs of the men who attend the course.

Neuropathology for Practicing Pathologists

The specialty course in Neuropathol-

ogy for Practicing Pathologists which was given in four parts last year will be expanded to five week-ends and given again this year by Dr. John Wagner. This course will begin in November and be given on approximately a monthly basis until May. Because of the practical nature of this course registration must be restricted to 12 participants.

**Advances in Basic Science Applied to
Clinical Practice**

The Basic Sciences Course, which continues to be very well attended, will be offered again this year. The program content will be considerably altered but the course will be on the same weekly basis, with 2-hour afternoon sessions from January to May, 1961.

Calendar of Events

The Calendar of Events is now pub-

lished the first day of each month. The recurring daily activities are listed by the day of the week. Special nonrecurring events are listed by date in a separate section of the Calendar. If there are special events, lectures, or meetings planned for the month which you would wish publicized in the Calendar please call these to the attention of Mrs. Petri at the Postgraduate Office at least a week prior to the date of publication. The circulation of the Calendar has now increased to 375, which affords good dissemination of notices of University and Hospital activities.

Inquiries concerning these courses should be directed to the Postgraduate Office. Descriptive brochures will be supplied upon request.

**THE UNIVERSITY OF MARYLAND
SCHOOL OF MEDICINE**

will offer

**A POSTGRADUATE COURSE IN
BASIC ELECTROCARDIOGRAPHY**

to be given under the direction of

Dr. Leonard Scherlis, *Associate Professor of Medicine
and Head of the Division of Cardiology*

January 19, 20, 21, 1961,

at University Hospital, Baltimore

For full information please write or phone:

THE POSTGRADUATE COMMITTEE OFFICE

University of Maryland School of Medicine

522 W. Lombard Street, Baltimore 1, Maryland

(Plaza 2-1100, ext. 278)



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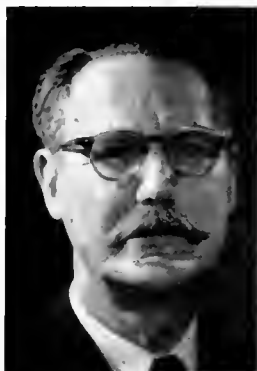
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ALUMNI ASSOCIATION SECTION



President's Letter

Dear Fellow Alumni:

At a meeting of the Board of Directors on August 16, a happening occasioning some concern was discussed. This concern was due to a number of comments made to members of the Board regarding the so-called "Alumni Directory" which was published in the *Terra Mariae Medicus* of 1960. The directors thought this of sufficient importance to request the president to make it the subject of this quarterly letter.

Last year most of you were contacted by the staff of *Terra Mariae Medicus* for financial support. Promise of receipt of copy of an alumni directory was made to contributors. The directory was published in the year book, and a reprint of this was sent to each contributor with a letter explaining it did not represent a directory of the alumni but was merely a compilation of those who contributed a specified sum of money to the year book. The letter was enclosed with the reprint at the request of your Board of Directors for clarification. Since many of our alumni would not see the reprint and letter, this explanation is offered.

A complete directory of alumni of the University of Maryland Medical School is one of the long range projects of your association. Our records are in the process of being checked and rechecked for duplications, current addresses, etc. When this task is completed, a directory will be made available.

Faithfully yours,

ARTHUR G. SIWINSKI, M.D.
President

ALUMNI WEEK—1960

Commencement and Alumni Activities Climax 153d Academic Year

ALUMNI activities this year continued at the usual level of interest participation and competent organization. Events began with Alumni Day, celebrated on Thursday, June 2. A large contingent of out-of-town graduates participated in the day's activities which honored particularly the class of 1910 and the Class of 1960. The following registered for Alumni Day, 1960.

N. G. Wilson	Class of 1895
L. N. Glenn	Class of 1897
B. W. Fassett	Class of 1898
	James A. Patterson
Wilmer C. Ensor	Class of 1900
Edgar B. Friedenwald	Class of 1903
H. L. Criss	Class of 1905
J. L. Wright	Class of 1908
Harry M. Robinson	Class of 1909
W. D. Blankenship	Class of 1910
George C. Coulbourn	A. J. Maysels
Denis J. Cronin	J. H. Messler
Frank P. Firey	Geo. W. Murgatroyd
H. M. Foster	Walter I. Neller
George F. Grisinger	Raymond V. Quinlan
Wilbert L. Grounds	Louis Rubin
Benjamin Kader	John G. Runkel
Gail W. Kahle	Harry R. Seelinger
Norman T. Kirk	Herman Seidel
J. Walter Layman	Maurice E. Shamer
Vernon H. McKnight	Hugh R. Spencer
Rosecoe D. McMillan	Ralph P. Truitt
C. W. McPherson	Charles B. Wheltle
	Walter M. Winters
William H. Triplett	Class of 1911
A. E. Goldstein	Class of 1912

C. Reid Edwards	Class of 1913
Austin H. Wood	Class of 1914
Charles A. Cahn	Class of 1915
Louis Diener	C. H. Moses
L. L. Gordy	Albert A. Naumann
William R. Johnson	E. M. G. Rieger
R. Basil Linger	Paul B. Steele
W. R. McKenzie	R. E. Woodall
	Mark Ziegler
Fred H. Clark	Class of 1917
Louis M. Krause	H. L. Wheeler
Thomas C. Speake	Class of 1918
Philip Artigiani	Class of 1920
Howard M. Bubert	W. K. McGill
Claud C. Burton	William J. B. Orr
Nathan J. Davidov	Clayton C. Perry
Louis C. Dobihal	D. J. Pessagno
H. P. Evans	J. P. Ponte, Jr.
Leon Ginsburg	J. Morris Reese
F. A. Holden	R. W. Richardson
Z. Vance Hooper	J. W. Skaggs
A. H. Jackvony	Henry Sheppard, Jr.
William Leuders	Fred B. Smith
E. Paul Knotts	Howard L. Tolson
	Israel S. Zinberg
Daniel F. Keegan	Class of 1921
Thomas N. Wilson	Thomas R. O'Rourke
Clewell Howell	Class of 1922
	Class of 1924
S. P. Balcerzak	Class of 1925
Leo T. Brown	John P. Keating
M. Paul Byerly	Edward R. Laus
A. A. Clahr	G. F. Leibensperger
Arthur A. Cope	Charles A. Minnefor
Jacob L. Dreskin	Joseph Nataro
J. Sheldon Eastland	Henry Oshrin
Francis A. Ellis	Jack Sarnoff
Harold H. Fischman	M. M. Wassersweig
Samuel S. Glick	John L. Winstead
James G. Howell	Chas. C. Zimmerman
Margaret B. Ballard	Class of 1926
	Louis T. Lay

ALUMNI ASSOCIATION SECTION

Class of 1927

T. Nelson Carey Frank K. Morris
A. H. Finkelstein

Class of 1928

John C. Krantz, Jr. Joseph G. Laukaitis

Class of 1929

Walter A. Anderson I. P. Meranski

Class of 1930

Harry Ashman	Isaac Miller
William Belinkin	Victor J. Montilla
Kenneth L. Benfer	Nathan E. Needle
Joseph S. Blum	Zack Owens
M. J. Coppola	George Sawyer
Vincent J. Fiocco	Louis R. Schoolman
Harry E. Gerner	Joseph J. Smith
Marshall V. Jackson	Nathan Snyder
Marius P. Johnson	N. M. Sperling
Abraham Kremen	A. Seth Werner

Class of 1932

Harry C. Hull A. C. Sollod
Louis F. Klimes

Class of 1933

Joseph Hyman Daniel R. Robinson
Lauriston Keown

Class of 1934

Milton S. Sacks Charles Zurawski
John N. Snyder

Class of 1935

Melvin Aungst	Howard B. Mays
D. T. Battaglia	A. W. McGregor
Dan G. Bierer	D. C. McLaughlin
E. I. Cornbrooks, Jr.	Charles B. Marek
Edward F. Cotter	Karl F. Mech
Robert L. Dubois	Philip Owen
Ferdinand Fader	H. M. Robinson, Jr.
Robert Fruchtbaum	Joseph Shapiro
Joseph B. Cross	Sydney H. Shapiro
John C. Hamrick	Benjamin M. Stein
Lewis C. Harrold	Louis H. Teitel
J. R. Heghinian	Joseph J. Tuby
William G. Helfrich	John M. Warren
James K. Herald	Chas. V. Williamson
Arthur Hollander	Norman J. Wilson
J. A. Hunt	L. K. Woodward, Jr.
Louis G. Llewelyn	

Class of 1936

George J. Coplin W. K. Waller
Walter Karfin Gibson J. Wells
J. R. Myerovitz

Class of 1937

Everett S. Diggs	Wm. B. Long
D. F. Kaltreider	Samuel T. Revell, Jr.
Isadore Kaplan	C. P. Scarborough
E. T. Lisansky	

Class of 1938

Geraldine P. Bradley	Robert C. Sheppard
Stanley Bradley	John A. Wagner
Arthur Milholland	Theo. E. Woodward

Class of 1939

D. L. Reimann

Class of 1940

Daniel C. Barker	F. Ford Loker
Edmund Beacham	Forest C. Meade
John T. Cole	Ross J. Pierpont
Edwin O. Daue	Conrad L. Richter
I. V. Glick	R. C. V. Robinson
Walter R. Graham	D. J. Roop
Ben. H. Inloes, Jr.	A. Frank Thompson
James Karns	W. H. Townshend, Jr.
Robert E. Lartz	Richard T. Williams
Wm. S. M. Ling	

Class of 1941

Elizabeth B. Sherrill

Class of 1942

John R. Davis	Joseph Furnari
J. Howard Franz	Theodore Kardash

Class of 1943

Ruth Baldwin	J. Emmett Queen
Jack Morgan	Stephen J. VanLill

Class of 1944

W. Karl Ebeling	Charles F. O'Donnell
Donald W. Mintzer	Charles E. Shaw

Class of 1945

Frank Ayd, Jr.	Leonard Kurland
George H. Anderson	Daniel B. Lemen
Charles L. Butler	Clarence S. Miller
Sarah Cook	Alfred S. Norton
John W. Dennis	John L. Rosenthal
William H. Frank	Alvin D. Rudo
Helen E. Greenleaf	Stanley R. Steinbach
John A. Hedrick	Chas. W. Stewart, Jr.
John Hennessy	Arthur F. Woodward
Wm. A. Holbrook, Jr.	

Class of 1947

A. R. Mansberger

Class of 1948

Alice G. Chelton	Kyle Y. Swisher
Nicholas Mallis	

Class of 1950

John L. Bacon	Irvin G. Hoyt
Wilbur N. Baumann	Virginia Huffer
H. H. Bleecker, Jr.	Frank G. Kuehn
Francis J. Borges	Evangeline M. Poling
Fred J. Burke	Wm. B. Rever, Jr.
Wm. A. Cracraft	Paul F. Richardson
L. Guy Chelton	Seymour H. Rubin
Harold L. Daly, Jr.	Robert Sandler
Miriam S. Daly	A. R. Sosnowski
Leonard L. Deitz	E. A. Vincens
Eleanor M. Demarest	Harriet H. Wooten
S. W. Henson, Jr.	Wm. H. Yeager, Jr.
Philip W. Heuman	

Class of 1951

A. D. Richardson

Class of 1953

Robert L. Levine	Robert T. Singleton
------------------	---------------------

Camera Views ALUMNI WEEK 1960



Dr. Harry M. Robinson, Jr., explains film on "Griseofulvin" to alumni gathered in Chemical Hall.



The camera surprises the Class of 1950. (left to right) Harriet Husted Wooten, Fred J. Burkey, Frank G. Kuehn, Lawrence M. Demarest, Enrique Vicens, William B. Rever, Jr., Paul Richardson, John L. Bacon, Harold L. Daly, Jr., Stanley W. Henson, Jr., George H. Yeager, L. Guy Chelton, Elinor Weed Demarest.



Dr. Frank Paul Firey, Portland, Orego Class of 1910.

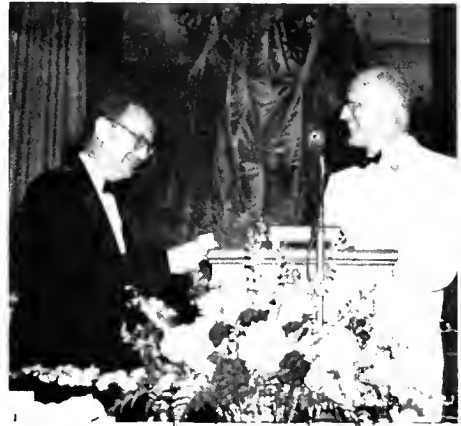


Veterans relax on campus near Davidge Hall. (Left) Dr. James Patterson, Class of 1910, and Dr. P. W. Fawcett, Class of 1898.



OLD TIMERS TABLE

Seated left to right: Mrs. H. L. Criss, Fairmont, W. Va.; Dr. H. L. Criss, 1905, Fairmont, W. Va.; Dr. J. L. Wright, 1908, Baltimore, Md.; Dr. James Patterson, 1898, Pittsburgh, Pa.; Dr. B. W. Fassett, 1898, Durham, N. C.; Dr. H. G. Wilson, 1895, Norfolk, Va.; Dr. L. N. Glenn, 1897, Gastonia, N. C.



Dr. Cornbrooks congratulates Dr. Bradley on his achievement.



Class of 1935



Dr. William S. Stone congratulates Dr. Stanley E. Bradley, member of the Class of 1938 who is the recipient of the 1960 Honor Award and Gold Key. (Left to right) Dr. Ernest I. Cornbrooks, Alumni President; Dr. William S. Stone; Dr. Stanley E. Bradley.

Head table at Alumni Banquet. (Left to right) Dr. Ernest I. Cornbrooks, President, Medical Alumni Association; Dr. Geraldine Power Bradley ('38); Dr. Wilson H. Elkins; Mrs. Wilson H. Elkins.



Class of 1954

Robert B. Goldstein William Houpt

Class of 1955

Everard F. Cox Ernest A. Leipold, Jr.
John A. Engers, Jr. David B. McIntyre
Vernon M. Gelhaus Frank R. D. Nataro
James T. Keegan

Class of 1957

Paul Bormel

Class of 1960

Wilson A. Heefner Bernice Sigman
Jerry Salan James A. Yates
Elijah Saunders

Faculty

J. Edmund Bradley Ruth D. Musser
Frank H. J. Figge

Precommencement Exercises

Precommencement Exercises for the Class of 1960 were held on Friday, June 3. After the convocation prayer by Rev. Donald C. Kerr of Roland Park Presbyterian Church, Mr. Charles P. McCormick, Chairman of the Board of Regents of the University of Maryland, and Dr. Albin O. Kuhn, Executive Vice President of the University of Maryland, delivered greetings to the Class of 1960. Dr. William S. Stone, Dean, presided at the precommencement exercises and administered The Oath of Hippocrates to the class of new physicians. Dr. Louis A. M. Krause of the medical faculty was the principal speaker. His address appears elsewhere in the BULLETIN.

Honors Distributed

Faculty Gold Medal—Summa Cum Laude—

Wilson Allen Heefner

Certificates of Honor—Magna Cum Laude—

Julio Enrique Figueroa-Lugo

Paul Elisha Huffington, Jr.

Clinton Lloyd Rogers

Jonas Alvin Shulman

John Willard E. Standiford

Dr. A. Bradley Gaither Memorial Prize
(for best work in G. U. Surgery)—

Harold Ray Tritch, Jr.

Dr. Leonard M. Hummel Memorial Award (Gold Medal—Internal Medicine)—

Wilson Allen Heefner

Dr. Harry M. Robinson, Sr. Prize (Dermatology)—

Thomas Nathaniel Ferciot, III

Margaret Whitaker Prize (For aptitude and interest in Arthritis)—

Allen Richard Myers

Student Council Keys—

Paul Angus DeVore

Herbert Halpenny James, Jr.

Clinton Lloyd Rogers

Highlights of the morning scientific session included a motion picture entitled "Hypospadias" by Dr. Howard Mays. An additional film by Dr. Harry M. Robinson, Jr., on the use of "Griseofulvin" was shown. An excellent paper on "Thoracic Surgery" by Dr. J. Norman Wilson was presented.

Dr. Ernest I. Cornbrooks presented Dr. Stanley E. Bradley of the Class of 1938 the Alumni Honor Award and Gold Key. Dr. Bradley is Professor of Medicine at Columbia University. He spoke briefly following the ceremony.

Annual Business Meeting

The annual meeting of the University of Maryland Medical Alumni Association was held on Thursday, June 2, 1960 in Chemical Hall following a scientific session.

The meeting was called to order by the president, Dr. Ernest I. Cornbrooks.

Presentation of the Alumni Honor Award was made by the president to Dr. Stanley E. Bradley. Appropriate comments were made by Dr. Bradley following the presentation.

ALUMNI ASSOCIATION SECTION

Dr. Stone, Dean of the School of Medicine, welcomed those present and spoke briefly on the activities of the University of Maryland School of Medicine.

The president presented the annual report of the activities of the Alumni Association.

The reading of the minutes of the previous meeting was called for and a motion was made, seconded, and carried to dispense with the reading of the minutes of the 1959 annual meeting.

Dr. Mays presented the financial statement and reported the financial report is now in the hands of the auditor and will be published in the next issue of the *BULLETIN*. He added that present returns indicated we are starting off this year in a healthy state. The report was accepted.

Dr. Triplett next read the necrology.

Dr. Queen read from the minutes of the 1959 annual meeting the resolution presented by Dr. John Young, Jr., and followed with a reading of a memorandum to the Board of Directors from the Committee on Constitution and By-Laws:

1. The unnumbered resolution submitted at the annual meeting in June 1959 recommending a constitutional amendment relating to membership and referred to this committee for study has been carefully reviewed.

2. It is the considered opinion of this committee that the resolution as phrased will not serve the best interest of the Medical Alumni Association.

3. It is recommended that the Board of Directors approve the decision of this committee and prepare and submit an unfavorable report when the resolution is next presented.

The Board of Directors approved the decision of the Committee.

A motion was made, seconded, and a unanimous vote was given for the rejection of the resolution. Discussion followed, and reasons given by the president for the rejection.

Dr. Queen then read a proposed amendment as submitted by the Committee on Constitution and By-Laws which had been accepted by the Board of Directors as follows:

That Section II of Article III of the By-Laws dealing with eligibility for associate membership be amended by the insertion of an additional sentence to read as follows: "Membership may be conferred in like manner upon members of the Resident Staff of hospitals affiliated with the School of Medicine."

This additional sentence to immediately follow the first sentence which refers to members of the faculty.

It was regularly moved, seconded, and favored by Aye votes that the amendment be accepted.

The nominating committee report, presented by Dr. William B. Long, listed: for president-elect, Dr. Frank K. Morris; first vice president, Dr. William Martin; second vice president, Dr. Joseph Nataro; third vice president, Dr. C. F. Strosnider; secretary, Dr. J. Emmett Queen; treasurer, Dr. Howard B. Mays; and for Board of Directors, Dr. Lawrence M. Serra; Dr. E. F. Cotter, Dr. Ramsay Thomas. It was moved, seconded, and carried that the recommendations of the nominating committee be accepted and that nominations be closed. The Secretary was instructed to cast the ballot and the slate was accepted unanimously.

Election of three members of the nominating committee was held from the floor and nominations were made as follows: Dr. Goldstein was named but de-

MEDICAL ALUMNI ASSOCIATION OF THE UNIVERSITY OF MARYLAND

STATEMENT OF RECEIPTS AND EXPENDITURES FOR THE FISCAL YEAR ENDED APRIL 30, 1960

Balance May 1, 1959—Alumni Fund		\$ 681.67
Receipts:		
Alumni Fund	\$8,369.00	
Bulletin Fund	5,268.00	
Total Receipts		\$14,318.76
Expenditures:		
Alumni Fund	\$9,407.85	
Bulletin Fund	3,730.00	
Total Expenditures		13,137.85
Balance April 30, 1960:		
Bulletin Fund	\$1,538.00	
Deficit, Alumni Fund	(357.09)	
Remainder—Bulletin Fund		\$ 1,180.91

clined. Names of doctors proposed were Dobihal, Karns, Finkelstein, Warren, and Karigin. Voting took place and the following three were elected: Dr. James R. Karns, Dr. Louis C. Dobihal, and Dr. A. Harry Finkelstein.

There being no further business, the meeting was adjourned.

Respectfully submitted,

J. EMMETT QUEEN, M.D.

Secretary

The business meeting was followed by the annual luncheon attended by about 225 persons.

The annual Alumni Banquet was held at the Lord Baltimore Hotel. Some 416 Alumni and wives gathered to pay honor to the Class of 1960 and to the 28 members of the Class of 1910 who returned to receive from President Cornbrooks their 50-year Certificates.

The banquet was presided over by Dr. Ernest I. Cornbrooks, President of the Medical Alumni Association. Honor guests at the banquet included Mr. Charles P. McCormick, Chairman of the Board of Regents, University of Maryland; Dr. Wilson H. Elkins, President of the University of Maryland; Dr. Albin O. Kuhn, Executive Vice President of the University of Maryland; Dr. William S. Stone, Dean of the School of Medicine; Rev. Paul C. Warren of the Second Presbyterian Church; Dr. Stanley E. Bradley, Professor of Medicine, Columbia University and recipient of the 1960 Medical Alumni Association Honor Award and Gold Key, along with members of the Class of 1960 and the honored alumni, members of the Class of 1910.

Your Medical Alumni Association exists solely upon dues payments from its members. Have you paid your dues? It needs your support! Any suggestions for the improvement of your Association are always welcome.



Alumni Party at 1960 A.M.A. Meeting

CONCURRENT with the annual meeting of the American Medical Association which was held in Miami Beach, Florida during June, 1960, a cocktail party for alumni and friends of the School of Medicine was held at the Roney Plaza Hotel on June 15 and was in honor of Dr. William S. Stone, Dean of the School of Medicine. Co-chairmen of the event were Drs. Phyllis P. and James A. Vaughn, Jr., of Coral Gables, Fla. Dr. Vaughn, acting as toastmaster, introduced the guests who individually gave their year of graduation and area of practice. A very enlightening discourse was given by Dean Stone during which time lantern slides were shown illustrating the present expansion of the University's facilities as well as plans for the future as shown by architectural drawings. Dr. A. E. Goldstein discussed the greater University of Maryland research foundation. The following attended:

Dean Stone and Mrs. Stone, Baltimore, Md.
Dr. and Mrs. A. E. Goldstein, Baltimore
Dr. and Mrs. E. K. Shipley, Baltimore, Md.
Dr. and Mrs. M. T. McGoogan, Waycross, Ga.

Dr. and Mrs. John Snyder, Baltimore, Md.
Dr. C. A. Whithorn, Panama City, Fla.
Dr. and Mrs. G. S. Gritz, Boca Grand, Fla.
Dr. R. O. Lyell, Miami, Fla.

Dr. Mortimer Abrashkin, Miami Beach
Dr. and Mrs. Eli Galitz, Hialeah, Fla.
Dr. and Mrs. Stanley Schwartz, Miami, Fla.
Dr. and Mrs. Murray Reckson, Miami Beach
Dr. and Mrs. R. E. Bauer, Miami, Fla.

Dr. and Mrs. Oliver Winslow, Miami, Fla.
Dr. John Rozum, Miami, Fla.
Dr. and Mrs. Ashville Feldman
Dr. and Mrs. C. E. McWilliams
Dr. Philip Galitz, Miami, Fla.
Dr. Daniel Stone, Miami, Fla.

Dr. and Mrs. Adams, Hollywood, Fla.
Dr. C. W. McGrady and Dr. Kathleen McGrady, Pompano Beach, Fla.

Dr. Paul Bormel
Dr. James A. Vaughn, Jr., and Dr. Phyllis P. Vaughn, Coral Gables, Fla.

(Left to right) Dr. C. A. Whithorn, Panama City, Fla.; Dr. Phyllis P. Vaughn, Dr. John Rozum, Miami, Fla.; Dr. Albert Goldstein, Baltimore Md., and Dr. James A. Vaughn, Jr., Coral Gables, Fla. (Phyllis and Jim were co-chairmen and organizers of this most successful reunion party.)



MEET THE EMERITI

Dr. Harry M. Robinson, Sr.

By C. GARDNER WARNER, M.D.



DR. HARRY M. ROBINSON, SR., was born in Ohio but moved to New York City at an early age. He attended public school in New York and early in his youth became interested in athletics, especially football, much to his father's displeasure. His uncle was what we would call a "general specialist," practicing gynecology, genitourinary diseases, and syphilology. It was probably from his uncle that young "Robbie" received his inspiration to study medicine. His reason for coming to the University of Maryland was to play football while he studied medicine, the professional schools of the University having achieved considerable renown in this sport at that time. Their fame had spread at least as far as New York City. Young Robbie made the team and played tackle for three seasons, until the Dean, Dr. Dorsey Cole, advised him it was interfering with his studies. Young Robinson worked his way through medical school by selling athletic equipment and during the school year was janitor for Davidge Hall. He was given living quarters in this old reconditioned church which served as library and outpatient department.

Dr. Robinson graduated in 1909. He

returned to New York for a short time but soon returned to Baltimore, which has been his home ever since. By 1912 his interest centered on the subject of dermatology, and he has since devoted himself entirely to this specialty.

Dr. Gilerist, Dr. Robinson's preceptor, was himself an eminent dermatologist and a pioneer in this field. Dr. Gilerist held appointments at both Hopkins and the University of Maryland, so Dr. Robinson began active clinic work with him at both institutions. He has continued this double connection for almost 50 years. At the death of Dr. Gilerist, he succeeded to the chair of Professor of Dermatology at his Alma Mater and headed this department during the expanding years between World War I and II. At his retirement to Emeritus Professor, his son, Harry M. Robinson, Jr., was elevated to this position. His other son, Vail Robinson, has not only followed his father in the practice of medicine but is even in the same specialty.

Dr. Robinson has been active in the Presbyterian church since coming to Baltimore, teaching in the Sunday School, singing in the choir, and at one

ALUMNI ASSOCIATION SECTION

time served as Superintendent of the Sunday School. He attended Westminster Church within the shadow of the University, and more recently holds membership at the Franklin Street Presbyterian Church. His devotion to his religious beliefs is reflected in his manner of life.

He enjoys good music and for many years participated in the Germania Choral group. He attends the theatre frequently and still visits his sister periodically in New York where he finds time to enjoy a few Broadway shows.

Dr. Robinson has maintained his home and office downtown at 106 East Chase Street for 32 years. He still has an active daily practice and during the school year does some teaching at both Hopkins and the University of Maryland. One of his main recreational hobbies is writing poetry. He has published six volumes since 1925. Here is a sample from his 1960 edition entitled *Belvedere Terrace and Other Poems*.

I'M NOT AFRAID OF ME

I am not afraid of me
And though I frown or scowl
Or crawl into my cave
Refusing thine or thee
I still must bear with me,
And so, I built myself a hut
High in a tree
Away from everybody but me.
And I talk with me
Knowing I need not swear myself to secrecy,
Because it's locked within me.
Oh the vaporous storms will rage
And I call myself fool,
Bitter and sweet half truth, half lies,
Never the truth complete,

And when it's over I've told myself in torrid
words
Everything I would not tell thee
For fear you would slay me with your
thoughts.

I am not afraid of me,
Imprison me
And I will still have company,
Shut me in a dungeon cell,
And if you feed me well
My company will not be boring.

I am not afraid of me,
And when my talking palls
I'll seek some other in some books
Or sooth myself as need may be
With music that the birds or beasts may
give.

REUNION OF ALUMNI AT SOUTHERN MEDICAL CONVENTION

**Reunion Planned for St. Louis for
Tuesday, November 1, 1960**

UNDER the chairmanship of Robert A. Moses of the Class of 1942, plans are now in progress for a medical reunion of Alumni of the School of Medicine to be held on the occasion of the annual meeting of the Southern Medical Association in St. Louis, Mo.

Dr. Moses plans a cocktail party and buffet supper for Tuesday evening, November 1, 1960. Alumni attending the convention should inquire for the University of Maryland registration desk which will be found near the registration area.

Further inquiries for details can also be made directly to the Alumni Office.

"And He Gave Them Their Request But Sent Leanness Into Their Soul"

—*Psalms, 106:15*

LOUIS A. M. KRAUSE, M.D.

LET me take you back to about 1290 B.C. in the land of Egypt, specifically in the portion called Goshen, in lower Egypt. The Hebrews were here in captivity, having been here for 400 or more years. They were labeled slaves. At this first Passover, they are leaving Egypt for the land of milk, honey and freedom, namely Canaan, later to become Palestine, and now Israel. Some 600,000 men and their paraphernalia started the trek which was to last 40 years, under the leadership of Moses, who was 80 years old. Within a few days to weeks the going was becoming increasingly difficult. I can testify personally about the land of Sinai. On two occasions I've followed the path of the Exodus. It was no picnic then, or now. The land is a most inhospitable one: stony, hilly and desert area, finally reaching a climax in the majestic, austere Mt. Sinai, the mount of the Ten Commandments or Decalogue. The natives are all Bedouin, free and untrammelled as the air they breathe, yesterday and today. The journey was necessary to condition the Israelites for the final invasion into the Holy Land, a people grown soft from a sedentary life with all the food they wished. Of the original number, 600,000 or so, only 40,000 more or less crossed the Jordan. The path of the Exodus was a continuous line of graves from the

Red Sea to the Jordan. This group, like any group, was divided into those who were satisfied with the life in Egypt, and those enterprising ones who wished freedom and challenge, no different than groups of today. An example of the dilemma we must all face; a few, the minority, like the leaders, Moses, Joshua, etc., saw a vision and were willing to accept the price. The others who saw not the goal ahead were more concerned about their security, not their freedom. They clamored for the easy life in Egypt, where food was always available and the day's routine was planned. "And the children of Israel said unto them, Would to God we had died by the hand of the Lord in the land of Egypt, when we sat by the flesh pots, and when we did eat bread to the full; for ye have brought us forth into this wilderness, to kill this whole assembly with hunger," Exodus 16:3. "We remember the fish, which we did eat in Egypt freely; the cucumbers, and the melons, and the leeks, and the onions, and the garlick:" "But now our soul is dried away: there is nothing at all, beside this manna, before our eyes." "And say thou unto the people, Sanctify yourselves against tomorrow, and ye shall eat flesh: for ye have wept in the ears of the Lord, saying, Who shall give us flesh to eat? for it was well with us in Egypt, therefore the Lord will give you flesh, and ye shall eat." Numbers 11:5,6,18.

The commencement Address to the Class of 1960, School of Medicine, in the Health Sciences Library, June 3, 1960.

We see the same picture today in everyday life, particularly those who work for big organizations, corporations, and even Universities. In many big activities involving many people, the standards gravitate to the level of the lowest. You have a security, a place to work, the same colleagues constantly about you. After a few years you become accustomed to the team and the dependence that it promotes. You become less and less aggressive with the consequent loss of individual freedom. You will dislike starting on a new adventure because you are sure of your job if you do it reasonably well. When you get ahead it is because you are promoted by the powers that be. You get all your material needs, but does this help your character, spirit or soul? Since you do not experience the difficulties of the individual on his own, you become insensitive to the needs of your fellow man. Up to now most of you have not earned your way. In the medical world some societies of specialists wish to control the fees of their members to insure an adequate return. I never found it impossible to come to an agreement on that with the patient if you have compassion in your heart. Since when can a society decide what your worth is?

I don't believe in the so called self made man. No one is a self made man. From the material standpoint, maybe rarely, but don't forget the moral support you have gotten from your parents, teachers and friends.

There are some occasions when an individual must become part of a team. For example, in the special problems requiring teams necessary for procedures, like the heart, lung and artificial kidney teams. Here the moment of actual work is mostly technical and large teams are

needed. In former years we heard much of the art of medicine, particularly when doctors had really little else to offer the patient. Then with the advent of effective therapy, we heard less about the art of medicine. Now the very advance of medicine, the knowledge of the physical and chemical background of the patient has revealed the importance of the psyche and the sociological contact and the environment of the patient and his symptoms. Medicine is distinctively individualistic in its outlook. You cannot fully understand what differences of physiology must occur in the individual who follows the crowd and has security, but no enterprise, and the individual who has a courageous spirit, preferring risk to security, struggle to peace. The zealous mind looking upon far horizons will accept defeat without regret or depression. You can see how the psychosociologic aspect of the one is going to produce vastly different physico-chemical changes as compared to the other. The attempt to understand this is bringing forward as never before the renaissance of the interest in the art of medicine, and the importance of the doctor-patient relationship. Think what problems of adjustment must have existed between the leaders of the Exodus and the people. The doctor must know the spiritual outlook of the patient. The psyche can alter our physiology for better or worse, and finally cause structural changes in the body. In this doctor-patient relationship, remember you, the doctor, may influence the patient's life with a word just as certainly as with drugs or surgery. "Heaviness in the heart of man maketh it stoop; but a good word maketh it glad." Proverbs 12:25. "A man hath joy by the answer of his mouth; and a word spoken in due season,

how good is it!" Proverbs 15:23. "A word fitly spoken is like apples of gold in pictures of silver." Proverbs 25:11. A word of warning, always accept the patient as he presents himself, never according to your moralistic attitude. The best book on the altered physiology in psychosomatic medicine, I think, is the book of Proverbs. Now where does the Book of Proverbs. Now where does all this lead? What are your goals and objectives? What are your requests? This will determine whether your souls will become lean or not. The majority in the Exodus for the fleshpots did not pray for strength equal to their burdens. Will you belong to that group, the majority group? They asked for lighter burdens. I am well aware of the need for some material profit so that one can have time for relaxation to pursue the spiritual things and culture. Isn't it curious most of us reject the improvement in physical well-being which comes from a planned restraint in eating and drinking? Also most of us make no effort to have a healthful balance between exercise and rest in everyday life. We look for short cuts with medicines, pills to pep us up, pills to calm us down. Always seeking outside help for our support and comfort. Our improvement as well as our decline begins within. Seldom do outside influences bring on decline and decay. Or do you belong to the enterprising minority group? "Man must move himself before he can move others," Socrates said. How well this is illustrated in the parable of the Good Samaritan on the Jericho Road. The Good Samaritan, a heretic to the accepted Religion of the time, had no ecclesiastical training like the Priest, no holier than thou attitude like the Levite, but he had that great moving force within

his heart, compassion, without which you should never practice medicine. You must count time not by the clock, but by the heart beats and heart throbs. You are mostly technicians now and rightly so, interpreting some instrument or graph. We learn from the scientist when we use a blood pressure apparatus or an instrument or our EKG, but the machine and instruments should go along with the spirit. They are both needed today. So let your request be for those things which will make you equal to your tasks. Your spirit will then rejoice in the ability to do things for yourselves and your fellow man. Then instead of a shrunken, emaciated, lean spirit, you will have a soul comparable to that of the Good Samaritan, full of compassion so that you, like him, can offer the patient the best medical care of the day. The people of the Exodus had to choose which path they would follow. The minority saw the goal, the road that led to the Golden Rule, or Ten Commandments, and the land of milk and honey. A spiritual reward, first, then a material one. In medicine, that means the union of spirit and instrument for the patient. The majority was interested in the material reward first. You must make a choice. We all make errors, errors help our character, also help us to learn. The error, mistaken for truth or clothed in authority, is what kills or destroys. Let me hasten to add that when in doubt at least make a decision, never be indifferent even though you are with the minority. It takes a lot of courage to be on the unpopular side. Of the 600,000 plus or minus, that began with the Exodus, only 40,000, more or less, entered the land of milk and honey, i.e., Canaan. Even the leader, Moses, did not

Continued on page xlvii

Class

NOTES

ELSEWHERE in this edition you will find a "tear out" page, for reporting Alumni News to the BULLETIN. This is not an idle gesture.

Your achievements, fellow alumnus, are of interest to your classmates. They constitute a reward to the faculty, are a challenge to the younger physicians, and are an item of prestige for the University. Please cooperate with us by forwarding news of yourself or any alumnus to the BULLETIN. Thank you.

B. M. C. 1893

Lorenzo Caldwell of Mathias, W. Va., died recently.

Charles R. Hudgel, Warm Springs Avenue, Boise, Ida., died March 23, 1960, aged 90.

B.M.C. 1897

Charles Tate Bigelow of Clinton, Ia., died March 9, 1960, aged 82.

Class of 1897

Charles Ryle Foutz of Westminster, Md., died during August 1960. Dr. Foutz was 87.

Class of 1900

John Charles Wessell of 1501 Market Street, Wilmington, N. C., died recently.

Class of 1901

William Henry Coulbourn of Crisfield, Md., died on July 30, 1960.

B.M.C. 1902

Nathaniel Blitzer of 2022 Beverly Road, Brooklyn, N. Y., died on March 28, 1960.

S. Clark Steele of Brave, Pa., died on March 8, 1960. Dr. Steele was 82.

B.M.C. 1903

John Joseph Quinn of Athol, Mass., died on May 20, 1960. Dr. Quinn was 82.

Class of 1904

Charles Collins Orr of Asheville, N. C., died on April 2, 1960. Dr. Orr was 85.

Class of 1905

Edgar Brown Le Fevre of Inwood, W. Va., died on May 14, 1960. Dr. Le Fevre was 79.

P & S 1908

George P. Evans of Largo, Fla., died on April 25, 1960. Dr. Evans was 77.

Class of 1908

Luther A. Riser of 828 Woodrow Street, Columbia, S. C., died on February 29, 1960, aged 82.

P & S 1909

Michael Abrams of 111 W. Monument Street, Baltimore, died on June 27, 1960.

Class of 1909

John T. Russell, who for many years practiced medicine at Annapolis, died on May 22, 1960, at the age of 79.

A native of Annapolis and an alumnus of St. John's College, Dr. Russell was active on the staff of the Anne Arundel General Hospital at Annapolis.

Lynn J. Putman of Elgin, Ill., died

on April 3 1960 of leukemia. Dr. Putman was 73.

Harry M. Robinson, Sr., Professor of Dermatology, Emeritus, School of Medicine, continues his active life both in the practice of Dermatology and as regards his hobby of writing poetry (see article elsewhere in this edition on "Robbie" under the heading, "Meet the Emeriti"). Recently Dr. Robinson submitted two of his latest books to the BULLETIN for review. The two most recently published volumes, the fifth and sixth of a series begun in 1925, are "This Is The Way I Play," the Froben Press, Fort Pierce, Florida, pp. 39, 1957, and "Belvedere Terrace," the Chelsea Publishing Company, Baltimore, pp. 28, 1960.

Both books represent rhythmic portrayals of a series of impressions and a reaction to them. The author expresses his thoughts well. His rhyme and rhythm are graceful and sound well when read aloud. He shows a great awareness and perception, is expressive, quite mature, and, above all, conveys to the reader a hidden veil of thought which perhaps speaks not only of triumph but in a more somber tone of vexation, loss, and defeat.

To those who know the author's private life, these poems must convey those emotions which are the inner man. They are of a mature tone, are decidedly the result of careful work, and show evidence of revision.

The author's work constitutes more than a simple pastime.

Class of 1910

Norman T. Kirk (Major General, the Surgeon General of the United States Army, retired) died on August 14, 1960, following resection of an abdominal aortic aneurysm. Dr. Kirk was 72. Dr.

Kirk was known pre-eminently for his unprecedented role in world medicine during World War II when as Surgeon General of the Army of the United States, it became necessary to organize the medical services on a world-wide basis with allowances and adjustments for the developments of modern warfare. Not only was the global aspect of this problem of great importance, but this emergency involved numbers of troops and types of wounds hitherto unknown.

To this challenge, Dr. Kirk was called from his previous assignment as Commanding General of the Percy Jones General Hospital in Battle Creek, Mich. His leadership and his qualities of command in this difficult situation are well documented in the organization and conduct of the medical services of the United States Army during the war. Problems ranging from the transport and care of wounded in the Arctic to the many problems of the disease ridden South Pacific were equally met as were those arising in desert countries in the Near East. At its peak strength, Dr. Kirk's medical service included 47,000 physicians, 15,000 dentists, and 57,000 nurses who cared for almost 15,000,000 patients. Dr. Kirk was very proud of the low mortality rate of American soldiers from disease and injury. In 1946 he stated that in World War II "America lost fewer men to disease than to enemy action." "This," he said, "was the first time in history any army fighting for a protracted period overseas ever accomplished this." Death rate from disease in World War I was 16.5 per 1,000 soldiers a year. In World War II it dropped to 0.6. Dr. Kirk was also very proud of the fact that 97% of the American wounded survived.

A native of Rising Sun, Md., Dr. Kirk

ALUMNI ASSOCIATION SECTION

joined the United States Army shortly after his graduation from the School of Medicine and participated in all of the major campaigns through World War II. His interest in the School of Medicine was continuous and unusually active. He was a founding member of the Beta Alpha Chapter of the Nu Sigma Nu Fraternity and was a frequent visitor to the fraternity house. On several occasions during the war, he made unofficial visits with the medical students counseling them on their many problems, particularly with reference to the military service they were to enter. Whenever possible, Dr. Kirk would attend the regular annual meeting of the Medical Alumni Association and would participate in Alumni affairs. In 1958, the Medical Alumni Association honored him with the presentation of the annual Honor Award and Gold Key for outstanding contributions to medicine and distinguished service to mankind.

The Class of 1910 loses a distinguished member. The School of Medicine joins with the nation in a tribute to an accomplished surgeon, soldier, and leader.

P & S 1911

Archie C. Hall of 20101 Berg Road, Detroit, Mich., died on March 30, 1960, at the age of 78. Dr. Hall was at one time a pitcher in big league American baseball. He was a native of Grafton, W. Va.

P & S 1915

William O. Hearn, Minnesota Soldiers Home Hospital, Minneapolis, Minn., died May 22, 1960.

Gilberto S. Pesquera of 1 Madison Avenue, New York City, died of coronary occlusion on February 26, 1960. Dr. Pesquera was 66.

Harrison Morton Stewart of the Veterans Administration Central Office in Washington died on March 7, 1960. Dr. Stewart was 71.

Class of 1916

Everett L. Bishop, M.D., Professor of Pathology (Neoplastic Diseases) and Pathologist to the Winship Clinic, Emory University School of Medicine, has been elected an honorary member of the



Members of Class of 1925 at Alumni Banquet, June 2, 1960. Bottom row (L to R): Drs. Jacob L. Dreskin, Samuel S. Glick, Joseph Nataro, M. Paul Birely, Chas. A. Minnefor, S. P. Balcerzak, J. Sheldon Eastland. Second row: Drs. James G. Howell, Chas. C. Zimmerman, Edward R. Laus, John P. Keating, Francis A. Ellis, Harold H. Fischman. Third row: Drs. Leo T. Brown, Henry Oshrin, A. A. Clahr, Martin M. Wassersweig, Jack Sarnoff, A. A. Cope, G. F. Leihensperger.

Sociedad Colombiana de Patología and awarded the Diploma of the Society.

Class of 1921

Baxter S. John of 502 S. Capitol Street, Washington, D. C., died March 4, 1960 of coronary occlusion. Dr. John was 66.

Stanley W. Matthews of 1331 Dorothy Drive, Clearwater, Fla., died on July 16, 1960. Dr. Matthews was for many years Medical Officer of the United States Army.

Class of 1929

Walter A. Anderson currently serves as President of the Maryland Academy of General Practice, a constituent chapter of the American Academy of General Practice. Dr. Anderson served as Chairman of the 12th Annual Scientific Assembly and annual meeting of the Association held at the Southern Hotel in Baltimore, October 8 and 9, 1960.

Jacob H. Conn was one of the participants at a Round Table on Hypnosis held at the meeting of the American Psychiatric Association. Dr. Conn also spoke at the annual meeting of the Virginia Academy of General Practice. He presented a paper entitled "What Is Pain?" at the annual meeting of the Maryland State Dental Association 1960.

Joseph F. McGowan died at his home in Asheville, N. C., July 17, 1960. Dr. McGowan was 57.

A specialist in Otolaryngology and a practitioner in Asheville, N. C., Dr. McGowan was a member of the American Academy of Ophthalmology and Otolaryngology, the American College of Allergists, and the American Otorhinologic Society for Plastic Surgery.

Class of 1930

Morton L. Levin was recently awarded The Hermann N. Biggs Memorial Award of the New York State Public Health Association, for outstanding work in public health.

Dr. Levin, who is lifetime professor of research at the Roswell Park Memorial Institute in Buffalo, was formerly president of the Public Health Cancer Association and the New York State Epidemiological Society. Dr. Levin directed one of the earliest studies on relationship between smoking and lung cancer.

Class of 1931

Milford Harsh Sprecher of Elkton, Md., died on May 18, 1960. Dr. Sprecher was 54.

Class of 1934

James G. Sasscer of Upper Marlboro, Md., died recently.

Class of 1935

Walter H. Gerwig has been named Associate Professor of Surgery at the newly organized West Virginia University School of Medicine. West Virginia University has recently become a four-year approved medical school. Dr. Gerwig, who is Chief of the Surgical Service at the U. S. Veterans Hospital in Clarksburg, W. Va., will continue in his former position assuming his new duties with the opening of school.

Following his military service in World War II, for a number of years Dr. Gerwig was associated with George Washington University in Washington, D. C., and practiced surgery in the same city. He is well known for his interest and many publications in the field of gastrointestinal surgery and for several

important papers relating to sarcoma of the breast. He has frequently been a discussant and panelist at many important surgical symposia.

George F. Schmitt of Miami, Fla., has been recently nominated to membership in the American Medical Writers' Association.

Milton Siscovick, 3411 Edgewood Road, Baltimore 15, Md., died May 31, 1960.

Class of 1937

J. Edward Schmidt of Charlestown, Ind., has been recently nominated to membership in the American Medical Writers' Association. Dr. Schmidt, an eminent medical lexicographer, is the author of numerous books and monographs on medical terminology, construction, and the general selection and use of medical terms. He is also consultant for numerous editorial groups and is a frequent contributor to many journals.

Class of 1938

Stanley E. Bradley, Professor of Medicine at Columbia University, will be honored on October 21, 1960 at the 33rd Annual Meeting of the American Heart Association. Dr. Bradley will receive the Lasker Award and will deliver the Brown Memorial Lecture, his subject being "Clinical Physiology of the Splanchnic Circulation."

Harold L. Colleran of 536 Main Street, Peckville, Pa., died on April 1, 1960 of pneumonia. Dr. Colleran was 46.

Sidney Scherlis is currently serving as President of the Heart Association of Maryland.

Class of 1939

Dexter L. Reimann, who serves as Pathologist-in-Chief at the Bon Secours

Hospital in Baltimore, has been recently named Advisor to the Maternal Mortality Commission, a joint committee of the Medical Society and the Baltimore City Health Department concerned with the discussion of maternal deaths in the City of Baltimore.

Max S. Sadove, Professor of Surgery (Anesthesiology) and Head of the Division of Anesthesiology of the University of Illinois College of Medicine, will present a paper entitled "Analgesic Agents in Acute Pain Relief" at the Interstate Postgraduate Medical Association meeting, 45th Scientific Assembly to be held in Pittsburgh, October 31-November 3, 1960.

Class of 1944

John T. Everett of 1202 St. Paul Street in Baltimore recently has been certified in general surgery by the American Board of Surgery.

Helen A. Horn who serves as Director of the Department of Laboratories and Pathologist-in-Chief at the High Point Memorial Hospital, High Point, N. C., has been recently granted approval of a School of Medical Technology with the sponsorship of both the American Medical Association and the American Society of Clinical Pathology, as well as the Registry of Medical Technologists. The approved curriculum leads to full qualification as a medical technologist (MT).

Class of 1948

John R. Hankins reports from Iran by way of an article in the *Orange (Virginia) Times-Dispatch* that while Russia and the United States glare at each other, a group of physicians and nurses are making friends and important

medical progress through Iranian-American combined projects.

The article by Betty Parker Ashton reports that at the Shiraz center, a 250-bed hospital and nursing school, has been founded by a wealthy Iranian living in the United States who donated \$6,000,000 for the project. Dr. Hankins, formerly on the staff of the University Hospital, is one of the staff of five doctors and nine nurses from the United States who are cooperating with the Iranian staff to establish the hospital as a medical center in the City of Shiraz, 600 miles south of Teheran. Additional money is being supplied by the "Point Four Program" of the United States.

Dr. Hankins, who also lectures at the Shiraz University School of Medicine, states: "We're trying to work ourselves out of our jobs by training Iranians until American medical personnel aren't needed any more." During the three years which Dr. Hankins has spent in Iran, he has found the people courteous by American standards. "They are overwhelmed," said Dr. Hankins, "by Americans who come with a serious purpose and who approach them with a willingness to understand them and an

effort to learn their language and customs." Continuing, Dr. Hawkins said, "Iranians follow American happenings as eagerly as we do ————. I find most people here know very little about Iran."

Dr. Hankins expects to remain in Iran for at least another year. He was in the United States for about six weeks during the months of July and August.

Class of 1950

Harriet Husted is in practice with offices in Greenville, N. C.

Class of 1952

Luis F. Gonzales of the University Hospital Staff has been awarded a grant through the Heart Association of Maryland for experimental studies relating to the problems of heart disease.

Class of 1955

Murray Kappelman, who completed his residency in pediatrics at the University Hospital in June, 1960, will be associated in the private practice of pediatrics with Dr. A. H. Finkelstein. Dr. Kappelman's office will be located on Old Court Road in Pikesville, Md.

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cross the Jordan. He made mistakes of the spirit. Nature is relentless, as you know she never forgets a mistake or forgives ignorance. So think hard about the road you will follow. Will your requests be for the material things? If so, then guard against leanness of the soul. Not only will you suffer, but your patient will not receive the best medical care

available and soon will recognize you as an uninspiring peddler of medicine. If your request be for the immaterial, and the spiritual, your patient will receive the best available care and he in turn will look upon you as a healer of mind and body, as one anointed of God going about doing good. There will then be no leanness of your soul.



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